(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 April 2001 (19.04.2001)

PCT

(10) International Publication Number
WO 01/27158 A2

(51) International Patent Classification⁷: C07K 14/705

(21) International Application Number: PCT/US00/27582

(22) International Filing Date: 6 October 2000 (06.10.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/158,615 8 October 1999 (08.10.1999) US
60/184,809 24 February 2000 (24.02.2000) US

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**
— *Without international search report and to be republished upon receipt of that report.*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: OLFACTORY RECEPTOR SEQUENCES

(57) **Abstract:** The present invention provides polynucleotide sequences which encode polypeptides involved in olfactory sensation. The present invention also provides the polypeptides encoded by these polynucleotide sequences, vectors comprising these polynucleotide sequences and host cells transfected with these polynucleotide sequences. The present invention further provides for functional variants and homologues of these polynucleotide sequences and the polypeptides encoded by these polynucleotides. Libraries of polypeptides are also provided. Also included in the present invention is the use of these polypeptides and libraries of polypeptides in screening odorant molecules to determine the correspondence (scent representation, scent fingerprint or scent profile) between individual odorant receptors (the polypeptides) and particular odorant molecules. Also encompassed by the present invention is the use of the scent representation, scent fingerprint or scent profile to re-create and edit scents.

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# OLFACTORY RECEPTOR SEQUENCES

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority benefit of United States Provisional Patent Application Serial No. 60/158,615, filed on October 8, 1999, and United States Provisional Patent Application Serial No. 60/184,809, filed on February 24, 2000. The contents of those applications are hereby incorporated by reference herein in their entirety.

## STATEMENT OF RIGHTS TO INVENTIONS MADE UNDER FEDERALLY SPONSORED RESEARCH

Not applicable.

## TECHNICAL FIELD

The present invention is in the field of human olfactory receptors and their use in screening for olfactory agonists and antagonists. The present invention pertains to isolated nucleotide sequences which encode human olfactory receptors and also to the proteins encoded by said nucleotide sequences. The present invention also encompasses vectors comprising the nucleotide sequences of the invention and further, host cells transfected with said vectors. The present invention also allows for the determination of primary scents and the identification of the odor receptors which are encoded to detect these primary scents as well as the determination of secondary scents and the identification of combinations of odor receptors which are encoded to detect such secondary scents.

## BACKGROUND ART

Our sense of smell plays an important role not only in our appreciation of our surroundings such as the smell of flowers or new mown grass, but also evolved as a survival skill. Numerous odorant molecules can be detected at extremely low concentrations, providing early warning of danger, such as the smell of smoke or contaminated food. Indeed, a potent example of this is that most pregnant women experience a heightened sense of smell, presumably to protect the fetus from the deleterious effects of food poisoning.

It is estimated that humans can detect millions of different molecular species; however, our nose can discriminate only a fraction of these different chemicals (Mombaerts *Curr. Opin. Genet. Dev.* 1999 **9**, 315-320), usually estimated at about 10,000 odorants (Axel, *Scientific American* 1995, **October**, 154-159). Odorants for terrestrial species such as humans, are volatile (air born) ligands which are detected by the olfactory system. Odorants have vastly different chemical structures and subtle differences can lead to pronounced changes in the perceived odor (Mombaerts, *supra*). For instance, when the hydroxyl group of octanol is replaced by a carboxyl group to give octanoic acid, its perceived odor changes from orange and rose-like to rancid and sweaty (Malnic *et al.*, *Cell* 1999 **96**, 713-723). The basis for these feats of sensory perception are just beginning to be understood at a cellular and molecular level.

The olfactory system contains millions of olfactory sensory neurons (OSNs) located in the olfactory epithelium of the nasal cavity. In humans, the olfactory epithelium occupies an area of approximately 5 $cm^2$. The OSNs are bipolar with one end extending through the supporting cell into the mucosal layer, terminating in hairlike cilia. These cilia are the site of the olfactory receptors (OR) where the odorant ligands are thought to bind (Mombaerts *Curr. Opin. Genet. Dev.* 1999 **9**, 315-320, Hildebrand *et al.*, *Annu. Rev. Neurosci.*, 1997, **20**, 595-631). The OSNs also have a single unbranched axon which leads to the olfactory bulb, a part of the brain containing approximately 2000 glomeruli where the axons terminate and initial processing of the sensory code takes place. OSNs expressing the same OR are randomly interspersed throughout the olfactory epithelium, but in both the nose and the bulb, information derived from different ORs is strictly segregated; each OSN in the nose and each glomerulus in the olfactory bulb appear to be dedicated to input from one or few OR type(s) (Malnic *et al.*, *Cell* 1999 **96**, 713-723). It also appears that the location of the glomeruli are conserved across individuals of a species, providing the first spatial processing of particular odorant patterns (Mombaerts *Curr. Opin. Genet. Dev.* 1999 **9**, 315-320). The domains in the olfactory bulb for

different odors may overlap, but the overall patterns are distinct (Hildebrand *et al.*, *supra*), therefore, it should be possible to identify and reproduce the characteristic pattern of a given odorant. Output neurons project from the olfactory bulb to the primary olfactory cortex and from there to the higher cortical areas of the brain and to the limbic system (Malnic *et al.*, *supra*; Hildebrand *et al.*, *supra*, **20**, 595-631).

Until the identification of a large family of genes encoding putative odorant receptors (Buck & Axel *Cell* 1991 **65**, 175-187), progress towards understanding the process of odor recognition was negligible. In recent years there has been an explosion in this field as more and more putative odor receptors are isolated and cloned. The odorant receptor gene products have thus far been characterized through homology as seven transmembrane domain G protein-coupled receptors (GPCR). It is estimated that there are probably 500-750 OR-like sequences in humans, while there are 500-1000 OR genes in rat and mouse (Mombaerts *Curr. Opin. Genet. Dev.* 1999 **9**, 315-320). In mice, OR-like sequences make up approximately 1% of their genome, the largest known family in the mammalian genome, surpassing the complexity of even the immunoglobin and T-cell antigen receptor gene families (Mombaerts, *supra*). The OR are concentrated on the surface of the OSN's mucus coated cilia and it is thought that odorant molecules bind to the OR in the olfactory epithelium and thereby initiate signal transduction. Current interpretation of recent experimental evidence favors the idea that each neuron expresses only one, or very few, ORs. Since mammals can detect at least 10,000 odors and there are approximately 1,000 or fewer ORs, each of the ORs must respond to several odorant molecules, and each odorant molecule must bind to several receptors. It is believed that various receptors respond to discrete parts of an odorant molecule's structure and that an odorant consists of several chemical groups each of which bind a characteristic receptor (Axel *Scientific American* 1995, **October**, 154-159; Malnic *et al.*, *Cell* 1999 **96**, 713-723).

The main signal transduction pathway mediated by OR homologues in vertebrate species involves G protein-mediated stimulation of adenylyl cyclase activity, resulting in cAMP elevation that opens cyclic-nucleotide gated channels with a non-specific cation selectivity (Mombaerts *Curr. Opin. Genet. Dev.* 1999 **9**, 315-320). However, there are still numerous unanswered questions and recently it has come to light that 38-76% of the human gene OR sequences that are being reported may be pseudogenes and therefore incapable of expressing the proteins that encode the olfactory receptors. Some of the incidences may be due to the method of extracting the genomic DNA libraries (Mombaerts, *supra*). Few pseudogenes have been found in other vertebrates and their incidence in libraries from testicular DNA is also

rare (Hildebrand *et al.*, *Annu. Rev. Neurosci.,* 1997, **20**, 595-631). cDNA should not contain pseudogenes. There are a number of examples of ORs which have been successfully expressed and reactions to certain odorant ligands have been determined (Malnic *et al.*, *Cell* 1999 **96**, 713-723; Mombaerts, *supra*; Zhao *et al.*, *Science* 1998 **279**, 237-242).

Some attempts to express the ORs in heterologous cell lines resulted in the formation of inclusion bodies rather than the insertion of the proteins into the membrane (Kiefer *et al., infra*). However, purification of the receptors after expression in *E. coli* and their insertion into lipid vesicles facilitates the use of these receptors in odorant ligand screening using a combination of photoaffinity labeling and Trp fluorescence (Kiefer *et al.*, *Biochemistry* 1996 **35**, 16077-16084). In addition, a functional human OR receptor protein has been expressed in HEK-293 cells and oocytes and found to interact with odorant ligands (Wetzel et al., *J. Neurosci.* 1999 **19**, 7426-7433). There have also been, a number of successful efforts of expressing cDNA in insect Sf9 cells using *baculovirus* vectors (Mombaerts *Annu. Rev. Neuorsci.* 1999) as well as assays with neuronal tissue (Malnic *et al.*, *Cell* 1999 **96**, 713-723; Zhao et al., 1998; Firestein *et al.*, WO 98/50081). In addition, recent work accomplished the expression of chimeric mouse olfactory receptor sequences in HEK-293 cells and showed their reactivity towards a panel of odorant ligands, some at micromolar concentrations (Krautwurst *et al.*, *Cell* 1998 **95** 917-926). The drawback to expression in heterologous cell systems is the lack of working signal transduction pathways which can be used to detect responses to odorant ligands; these drawbacks can be overcome with methods known in the art (e. g. U.S. Pat. No. 5,798, 275). There are also methods of expressing and assaying functional neuronal receptors in neuronal cells, including methods for detecting particular odorant ligand specificity (Malnic *et al.*, *supra*; Zhao, *supra*; Firestein *et al, supra*).

Other publications of interest are: Chemical Senses 6: 343-349 (1981); Proc. Natl. Acad. Sci. USA 79: 670-674 (1982); Proc. Natl. Acad. Sci. USA 81(6): 1859-1863 (1984); Nature 316: 255-258 (1985); Brain Research 368: 329-338 (1986); J. Biol. Chem. 261: 1299-1305 (1986); Proc. Natl. Acad. Sci. USA 83(13): 4947-4951 (1986); J. Neurosci. 6: 2146-2154 (1986); J. Neurochem. 47: 1527-1533 (1986); Chemical Senses 13: 191-204 (1988); Biochem. J. 260:121-126 (1989); J. Biol Chem. 264: 6780-6785 (1989); Biochim. Biophys. Acta 1013: 68-72 (1989); J. Biol. Chem. 264: 18803-18807 (1989); Biochemistry 29: 7433-7440 (1990); FEBS lett. 270: 24-29 (1990); Chemical Senses 15: 529-536 (1990); Eur. J. Biochem. 196: 51-58 (1991); Nature 349: 790-793 (1991); Neurosci. Lett. 141: 115-

118 (1992); Developmental Brain Res. 73: 7-16 (1993); Proc. Natl. Acad. Sci., USA 90: 3715-3719 (1993); Human Mol. Genetics 3: 229-235 (1994); Eur. J. Biochem. 225: 1157-1168 (1994); European Journal of Biochemistry 238: 28-37 (1996); Receptors and Channels 4: 141-147 (1996); Genomics 37(2): 147-160 (1996); Protein Science 8: 969-977 (1999); Genomics 53: 56-68 (1998); Genomics 61:24-36 (1999); Genomics 63: 227-245 (2000); Trends in Neurosci. 7:35-36 (1984); Ann. Rev. Neurosci. 9:329-355 (1986); Trends Biochem. Sci. 12:63-66 (1987); Nature 351: 275-276 (1991); Nature 353: 799-800 (1991); Current Biol. 3(10): 668-674 (1993); Nature 372:321-322 (1994); Essays in Biochemistry. 33: 93-104 (1998); and Nature, 398 (6725): 285-287 (1999).

However, despite the forgoing, there has been relatively little work with human olfactory receptors, in particular in determining the sequences of large numbers of receptors, and less progress in determining the correspondence between particular human olfactory receptors and the scent(s) to which they respond.

All publications cited herein are hereby incorporated by reference in their entirety.

## DISCLOSURE OF THE INVENTION

An object of the invention is to determine the correspondence between ORs and the scent(s) to which they respond. Once this is accomplished, scents can be both analyzed and re-created for enhancing human experiences or eliciting particular responses. The present invention pertains to isolated polynucleotide sequences encoding polypeptides involved in olfactory sensation. The present invention also pertains to the proteins encoded by said nucleotide sequences. The present invention also encompasses vectors comprising the nucleotide sequences of the invention and further, host cells transfected with said vectors. The present invention also allows for the determination of primary scents and the identification of the odor receptors which are encoded to detect these primary scents as well as the determination of receptor complex scent components and the identification of combinations of odor receptors which are encoded to detect such receptor complex scent components scents.

The invention provides isolated polynucleotide sequences encoding polypeptides involved in olfactory sensation that are isolated from human olfactory epithelial tissue. The invention further provides expression vectors containing such nucleotide sequences. Also provided by the invention are purified polypeptides encoded by the nucleotide sequences. The invention further provides transformed cells which comprise a suitable host cell transfected with a suitable expression vector containing the nucleotide sequence encoding the receptor. The present invention also encompasses nucleotide sequences isolated from human olfactory epithelial tissue which encode receptors capable of binding odorant molecules. The invention further provides expression vectors containing such nucleotide sequences and homologues of both the polynucleotides and polypeptides. Further, the invention provides a means of using the nucleotide sequences of the invention in a method of screening odorant ligands to determine the specific binding of odorant molecules to a particular receptors, and further, determining the component odorant molecules of subjectively experienced smells, determining the combination odorant molecules and receptor stimulation or inhibition to re-create a particular scent. The binding of odorant molecules by the receptors encompassed in the present invention includes binding resulting in both the agonism (excitation/activation) and antagonism (inhibition/blocking) of receptor function(s) upon binding of the molecule.

Accordingly, the invention includes an isolated polynucleotide comprising a sequence encoding a polypeptide which is involved in olfactory sensation. The OR polypeptides encoded are found within the sequences depicted in polynucleotide sequences SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a nucleotide sequence at least 95% homologous to said sequences. The invention also encompasses the translation products of those sequences. The invention further comprises expression vectors comprising said sequences, host cells containing such expression vectors and/or expressing the polypeptide encoded therein, or phage displaying the polypeptide encoded by the sequences. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention. The invention further encompasses fragments of said polynucleotides which can be used as probes or primers to identify additional polynucleotide sequences through techniques known in the art, including those fragments depicted in SEQ ID NOs: 74-105.

The invention also includes additional isolated polynucleotide comprising a sequence encoding a polypeptide which is involved in olfactory sensation. The OR polypeptides

encoded are found within the sequences depicted in polynucleotide sequences SEQ ID NO:153 through SEQ ID NO: 1084, or a nucleotide sequence at least 95% homologous to said sequences. The invention also comprises the translation products of those sequences. The invention further comprises expression vectors comprising said sequences, host cells containing such expression vectors and/or expressing the polypeptide encoded therein, or phage displaying the polypeptide encoded by the sequences. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention.

The invention also encompasses an isolated and purified olfactory receptor polypeptide scomprising the sequence of SEQ ID NO: 1085 through SEQ ID NO: 2008, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of SEQ ID NO: 1085 through SEQ ID NO: 2008 and having olfactory receptor function. Host cells expressing such polypeptides and phages displaying such polypeptides are also encompassed by the invention. The use of functional fragments of receptors is also encompassed by the invention. Preparations of receptors, further including biological or synthetic molecules which maintain the stability and functional structure of the receptors, are also included in the invention.

Scents can be captured, analyzed and recorded by a sensory device using various methods. Scent capture can be initiated by the user or by an automatic sensing system. A scent can be analyzed in terms of its interaction with olfactory neurons of a mammalian, preferably human, olfactory system, or by the expression of individual receptors under appropriate conditions and appropriate assay conditions in multiwell plates or in terms of its perception by a panel of mammalian, preferably human, subjects. The interaction with olfactory neurons can be determined experimentally, in vitro, by determining the interaction of an odorant with olfactory receptors of a given type. Alternatively, the interaction with olfactory receptor can be determined using a computer simulation which provides information regarding the interaction of an odorant with the olfactory receptors. A panel of subjects can be used to represent odors in terms of their perception. The data so generated can be used to represent a scent in a manner which can be recorded in digital or other format, stored in media such as computer memory, disks, or printed format, and transmitted over a data network. The representation of the scent can be used to re-create the scent at a local or remote site using an emitter module. The

representation of the scent allows for scent editing, where desirable aspects of an odor are enhanced or added and undesirable aspects are attenuated or eliminated.

Accordingly, the invention also embraces libraries of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising the expression products of at least two polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084, where the polynucleotides encode functional olfactory receptors; or functional fragments of the expression products. Libraries of at least 50, 100, 200, or 500 receptors are also encompassed by the invention.

Also encompassed by the invention are libraries of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising at least two polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, where the polypeptides are functional olfactory receptors; or functional fragments of the polypeptides. Libraries of at least 50, 100, 200, or 500 receptors are also encompassed by the invention.

The invention also embraces methods for determining the binding pattern of a composition with olfactory receptors, involving exposing the composition to an olfactory receptor library, and determining whether the composition binds to each olfactory receptor, thereby determining the overall binding patter of the composition. In additional embodiments, the method also involves determining the approximate binding constant with which the composition, or the various chemicals within the composition, bind to the receptors; determining whether a receptor or functional fragment thereof is activated; and determining the absolute amount of activation, or amount of activation relative to another receptor or a control substance. The composition can consist essentially of one compound or chemical, or can comprise at least two compounds or chemicals.

The invention also embraces DNA arrays or DNA chips comprising the DNA segments derived from any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084. The invention also embraces a method of determining differences among one or more individuals with respect to their olfactory faculties, comprising the steps of comparing the olfactory DNA of each individual against the array or chip.

The invention also embraces a method to determine single nucleotide polymorphisms in olfactory receptors, comprising the steps of uniquely amplifying olfactory receptor sequences from DNA obtained from one or more individuals, based on

primers designed according to the first 25 bases and the last 25 bases of any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084, and determining the similarities and differences between said amplified DNA and the corresponding receptor from SEQ ID NO: 153 through SEQ ID NO: 1084.

## Brief Description of the Drawings

Figure 1 depicts the isolated polynucleotide sequences, which encode polypeptides involved in olfactory sensation, corresponding to SEQ ID NOs: 1 - 73.
Figure 2 depicts the isolated polynucleotide sequences, which encode polypeptides involved in olfactory sensation, corresponding to SEQ ID NOs: 111 - 152.

## Detailed Description of the Invention

The present invention provides isolated polynucleotides comprising sequences that encode polypeptides which are involved in olfactory sensation and which can be used to screen odorant ligands, *e.g.*, odorant receptor agonists and antagonists.

*Definitions*

The term "olfactory receptor" (OR) refers to a polypeptide involved in olfactory sensation. An "olfactory receptor polynucleotide" or "OR polynucleotide" is a polynucleotide encoding a polypeptide involved in olfactory sensation.

The term "odorant ligand" as employed herein refers to a molecule that has the potential to bind to an olfactory receptor. Equivalent terms employed herein include "odorant", "odorant molecule" and "odorant compound". The term "binding" or "interaction" as used herein with respect to odorant ligands refers to the interaction of ligands with the receptor polypeptide where the ligands may serve as either agonists and/or antagonists of a given receptor or receptor function. An odorant ligand may thus directly cause a perception of odor (an agonist), or may block the perception of odor (an antagonist). An odorant ligand may include, but is not limited to, molecules which interact with polypeptides involved in olfactory

sensation. Odorant ligands and molecules which interact with olfactory receptors are generally small, approximately 1000 Daltons, more preferably approximately 750 Daltons, more preferably approximately 500 Daltons, or even more preferably approximately 300 Daltons, hydrophobic molecules with a variety of functional groups. Small changes in structure can induce profound changes in odorant ligand binding and hence in the odor perceived by an individual.

A more detailed description of these sequences, as well as how these sequences were obtained, is provided below.

As used herein, a "polynucleotide" is a polymeric form of nucleotides of any length, which contain deoxyribonucleotides, ribonucleotides, and/or their analogs. The terms "polynucleotide", "nucleotide" and "nucleic acid" as used herein are used interchangeably. Polynucleotides may have any three-dimensional structure, and may perform any function, known or unknown. The term "polynucleotide" includes double- , single-stranded, and triple-helical molecules. Unless otherwise specified or required, any embodiment of the invention described herein that is a polynucleotide encompasses both the double-stranded form and each of two complementary single-stranded forms known or predicted to make up the double stranded form. Not all linkages in a polynucleotide need be identical.

The following are non-limiting examples of polynucleotides: a gene or gene fragment, exons, introns, mRNA, tRNA, rRNA, ribozymes, cDNA, recombinant polynucleotides, branched polynucleotides, plasmids, vectors, isolated DNA of any sequence, isolated RNA of any sequence, nucleic acid probes, primers, and adaptors. A polynucleotide may comprise modified nucleotides, such as methylated nucleotides and nucleotide analogs. The use of uracil as a substitute for thymine in a deoxyribonucleic acid is also considered an analogous form of pyrimidine.

In the context of polynucleotides, a "linear sequence" or a "sequence" is an order of nucleotides in a polynucleotide in a 5' to 3' direction in which residues that neighbor each other in the sequence are contiguous in the primary structure of the polynucleotide. A "partial sequence" is a linear sequence of part of a polynucleotide which is known to comprise additional residues in one or both directions.

If present, modification to the nucleotide structure may be imparted before or after assembly of the polymer. The sequence of nucleotides may be interrupted by non-nucleotide components. A polynucleotide may be further modified after polymerization, such as by

conjugation with a labeling component. Other types of modifications included in this definition are, for example, "caps", substitution of one or more of the naturally occurring nucleotides with an analog, internucleotide modifications such as, for example, those with uncharged linkages (e.g., methyl phosphonates, phosphotriesters, phosphoamidates, cabamates, etc.) and with charged linkages (e.g., phosphorothioates, phosphorodithioates, etc.), those containing pendant moieties, such as, for example, proteins (e.g., nucleases, toxins, antibodies, signal peptides, poly-L-lysine, etc.), those with intercalators (e.g., acridine, psoralen, etc.), those containing chelators (e.g., metals, radioactive metals, boron, oxidative metals, etc.), those containing alkylators, those with modified linkages (e.g., α-anomeric nucleic acids, peptide nucleic acids, etc.), as well as unmodified forms of the polynucleotide(s).

Further, any of the hydroxyl groups ordinarily present in the sugars may be replaced by phosphonate groups, phosphate groups, protected by standard protecting groups, or activated to prepare additional linkages to additional nucleotides, or may be conjugated to solid supports. The 5' and 3' terminal OH groups can be phosphorylated or substituted with amines or organic capping group moieties of from 1 to 20 carbon atoms. Other hydroxyls may also be derivatized to standard protecting groups.

Polynucleotides can also contain analogous forms of ribose or deoxyribose sugars that are generally known in the art, including, but not limited to, 2'-O-methyl-, 2'-O-allyl, 2'-fluoro- or 2'-azido-ribose, carboxcyclic sugar analogs, α-anomeric sugars, epimeric sugars such as arabinose, xyloses or lyxoses, pyranose sugars, furanose sugars, sedoheptuloses, acyclic analogs and abasic nucleoside analogs such as methyl riboside.

Although conventional sugars and bases will be used in applying the method of the invention, substitution of analogous forms of sugars, purines and pyrimidines can be advantageous in designing a final product, as can alternative backbone structures like a polyamide backbone such as those used in peptide nucleic acids (PNAs).

A polynucleotide or polynucleotide region has a certain percentage (for example, 75%, 80%, 85%, 90%, 95% or 99%) of "sequence identity" to another sequence means that, when aligned, that percentage of bases are the same in comparing the two sequences.

Homology, as described herein, means that the polypeptide sequences that are encoded by the nucleic acids demonstrate a certain relatedness (i.e., there exists regions of conserved amino acids), but not the same amino acid identity. There is complete or 100% homology at a particular amino acid residue when the amino acids of sequences being compared are the same (there is identity) or represent a conservative amino acid substitution (there is homology). A

"conservative amino acid substitution" occurs when a particular amino acid is substituted by an alternate amino acid of similar charge density, hydrophobicity/hydrophilicity, size and/or configuration (e.g., Val for Ile). A "nonconservative amino acid substitution" occurs when a particular amino acid is substituted by an alternative amino acid of differing properties, that is, charge density, hydrophobicity/hydrophilicity, size and/or configuration (e.g., Val for Tyr). The nucleic acid sequences within the scope of the present invention include those nucleic acids which differ in exact sequence from those listed in SEQ ID NO:1 through SEQ ID NO:73 and SEQ ID NO:111 through SEQ ID NO:152 but which encode identical or homologous polypeptide amino acid sequences.

A "primer" is a short polynucleotide, generally with a free 3' -OH group, that binds to a target potentially present in a sample of interest by hybridizing with the target, and thereafter promoting polymerization of a polynucleotide complementary to the target.

An "adaptor" is a short, partially-duplexed polynucleotide that has a blunt, double-stranded end and a protruding, single-stranded end. It can be ligated, through its double-stranded end, to the double-stranded end of another polynucleotide. This provides known sequences at the ends of thus modified polynucleotides. Often adaptors contain specific sequences for primer binding and/or restriction endonuclease digestion.

A "probe" when used in the context of polynucleotide manipulation refers to a polynucleotide which is provided as a reagent to detect a target potentially present in a sample of interest by hybridizing with the target. Usually, a probe will comprise a label or a means by which a label can be attached, either before or subsequent to the hybridization reaction. Suitable labels include, but are not limited to radioisotopes, fluorochromes, chemiluminescent compounds, dyes, and enzymes.

"Transformation" or "transfection" refers to the insertion of an exogenous polynucleotide into a host cell, irrespective of the method used for the insertion, for example, lipofection, transduction, infection or electroporation. The exogenous polynucleotide may be maintained as a non-integrated vector, for example, a plasmid, or alternatively, may be integrated into the host cell genome.

A polynucleotide is said to "encode" a polypeptide if, in its native state or when manipulated by methods well known to those skilled in the art, it can be transcribed and/or translated to produce the polypeptide, a homologous polypeptide or a fragment thereof. For purposes of this invention, and to avoid cumbersome referrals to complementary strands, the anti-sense (or complementary) strand of such a polynucleotide is also said to encode the

sequence; that is, a polynucleotide sequence that "encodes" a polypeptide includes both the conventional coding strand and the complementary sequence (or strand).

The terms "polypeptide", "oligopeptide", "peptide" and "protein" are used interchangeably herein to refer to polymers of amino acids of any length. The polymer may be linear or branched, it may comprise modified amino acids, it may be interrupted by non-amino acids, and it may be assembled into a complex of more than one polypeptide chain. The terms also encompass an amino acid polymer that has been modified naturally or by intervention; for example, disulfide bond formation, glycosylation, lipidation, acetylation, phosphorylation, or any other manipulation or modification, such as conjugation with a labeling component. Also included within the definition are, for example, polypeptides containing one or more analogs of an amino acid (including, for example, unnatural amino acids, etc.), as well as other modifications known in the art.

In the context of polypeptides, a "linear sequence" or a "sequence" is an order of amino acids in a polypeptide in an N-terminal to C-terminal direction in which residues that neighbor each other in the sequence are contiguous in the primary structure of the polypeptide. A "partial sequence" is a linear sequence of part of a polypeptide which is known to comprise additional residues in one or both directions.

"Recombinant," as applied to a polynucleotide or gene, means that the polynucleotide is the product of various combinations of cloning, restriction and/or ligation steps, and other procedures that result in a construct that is distinct from a polynucleotide found in nature.

A "vector" is a self-replicating nucleic acid molecule that can be used to transfer an inserted nucleic acid molecule into and/or between host cells. The term includes vectors that function primarily for insertion of a nucleic acid molecule into a cell, vectors that function primarily for the amplification of nucleic acid, and expression vectors that function for transcription and/or translation of the DNA or RNA. Also included are vectors that provide more than one of the above functions.

"Expression vectors" are defined as polynucleotides which, when introduced into an appropriate host cell, can be transcribed into a mRNA capable of being translated into a polypeptide(s). An expression vector also comprises control elements operatively linked to the coding region to enable and/or facilitate expression of the polypeptide in the target cell. These can include transcriptional, translational, posttranscriptional, and posttranlational control elements, as are known in the art. An "expression system" usually connotes a suitable host cell comprised of an expression vector that can function to yield a desired expression product.

A "host cell" includes an individual cell or cell culture which can be or has been a recipient for vector(s) or for incorporation of nucleic acid molecules and/or proteins. Host cells include progeny of a single host cell, and the progeny may not necessarily be completely identical (in morphology or in genomic or total DNA complement) to the original parent cell due to natural, accidental, or deliberate mutation. A host cell includes cells transfected in vivo with a polynucleotide(s) of this invention.

A "cell line" or "cell culture" denotes eukaryotic cells, derived from higher, multicellular organisms, grown or maintained in vitro. It is understood that the descendants of a cell may not be completely identical (either morphologically, genotypically, or phenotypically) to the parent cell. Cells described as "uncultured" are obtained directly from a living organism, and are generally maintained for a limited amount of time away from the organism (i.e., not long enough or under conditions for the cells to undergo substantial replication).

As used herein, "expression" includes transcription and/or translation.

"Heterologous" means derived from (i.e., obtained from) a genotypically distinct entity from the rest of the entity to which it is being compared. For example, a polynucleotide may be placed by genetic engineering techniques into a plasmid or vector derived from a different source, thus becoming a heterologous polynucleotide. A promoter which is linked to a coding sequence with which it is not naturally linked is a heterologous promoter.

An "isolated" or "purified" polynucleotide, polypeptide or cell is one that is substantially free of the materials with which it is associated in nature. By substantially free is meant at least 50%, preferably at least 70%, more preferably at least 80%, even more preferably at least 90%, even more preferably at least 99%, and even more preferably at least 99.9% free of the materials with which it is associated in nature. As used herein, an "isolated" polynucleotide or polypeptide also refers to recombinant polynucleotides or polypeptides, which, by virtue of origin or manipulation: (1) are not associated with all or a portion of a polynucleotide or polypeptide with which they are associated in nature, (2) are linked to a polynucleotide or polypeptide other than that to which they are linked in nature, or (3) do not occur in nature, or (4) in the case of polypeptides, arise from expression of recombinant polynucleotides. Thus, for example, an isolated substance may be prepared by using a purification technique to enrich it from a source mixture. Enrichment can be measured on an absolute basis, such as weight per volume of solution, by specific activity or it can be measured in relation to a second, potentially interfering substance present in the source mixture. Increasing enrichments of the embodiments of this invention are increasingly more preferred.

Thus, for example, a 2-fold enrichment is preferred, 10-fold enrichment is more preferred, 100-fold enrichment is more preferred, 1000-fold enrichment is even more preferred. A substance can also be provided in an isolated state by processes such as chemical synthesis or recombinant expression.

A "reagent" polynucleotide, polypeptide, or antibody, is a substance provided for a reaction, the substance having some known and desirable function in the reaction. A reaction mixture may also contain a "target", such as a polynucleotide, antibody, polypeptide, or assembly of polypeptides that the reagent is capable of reacting with. For example, in some types of diagnostic tests, the presence and/or amount of the target in a sample is determined by adding a reagent, allowing the reagent and target to react, and measuring the amount of reaction product (if any).

"Hybridization" refers to a reaction in which one or more polynucleotides react to form a complex that is stabilized via hydrogen bonding between the bases of the nucleotide residues. The hydrogen bonding may occur by Watson-Crick base pairing, Hoogstein binding, or in any other sequence-specific manner. The complex may comprise two strands forming a duplex structure, three or more strands forming a multi-stranded complex, a single self-hybridizing strand, or any combination of these. A hybridization reaction may constitute a step in a more extensive process, such as the initiation of an amplification reaction such as PCR, or the enzymatic cleavage of a polynucleotide by a ribozyme.

When hybridization occurs in an antiparallel configuration between two single-stranded polynucleotides, those polynucleotides are described as "complementary". A double-stranded polynucleotide can be "complementary" to another polynucleotide if hybridization can occur between one of the strands of the first polynucleotide and the second. The degree to which one polynucleotide is complementary with another is quantifiable in terms of the proportion of bases in opposing strands that are expected to form hydrogen bonds with each other, according to generally accepted base-pairing rules of A-T, A-U and G-C.

A "stable duplex" of polynucleotides, or a "stable complex" formed between any two or more components in a biochemical reaction, refers to a duplex or complex that is sufficiently long-lasting to persist between formation of the duplex or complex and subsequent detection, including any optional washing steps or other manipulation that may take place in the interim.

A substance is said to be "selective" or "specific" if it reacts or associates more frequently, more rapidly, with greater duration and/or with greater affinity with a particular cell or substance than it does with alternative cells or substances. An odorant ligand "specifically

binds" to a target if it binds with greater affinity, avidity, more readily, and/or with greater duration than it binds to other substances.

As used herein, "naturally occurring," "native," or "wild type" refers to endogenous polynucleotides and the protein(s) expressed thereby. These terms include full-length and processed polynucleotides and polypeptides. Processing can occur in one or more steps, and these terms encompass all stages of processing. For instance, polypeptides having or lacking a signal sequence are encompassed by the invention. "Non-naturally occurring", "non-native", or "non-wild type" refer to all other polynucleotides and polypeptides.

A "polymerase chain reaction" ("PCR") is a reaction in which replicate copies are made of a target polynucleotide using one or more primers, and a catalyst of polymerization, such as a reverse transcriptase or a DNA polymerase, and particularly a thermally stable polymerase enzyme. Methods for PCR are taught in U.S. Patent Nos. 4,683,195 (Mullis) and 4,683,202 (Mullis et al.). All processes of producing replicate copies of the same polynucleotide, such as PCR or gene cloning, are collectively referred to herein as "amplification."

According to this invention, a "genomic DNA library" is a clone library which contains representative nucleotide sequences from the DNA of a given genome. It is constructed using various techniques that are well known in the art, for instance, by enzymatically or mechanically fragmenting the DNA from an organism, organ, or tissue of interest, linking the fragments to a suitable vector, and introducing the vector into appropriate cells so as to establish the genomic library. A genomic library contains both transcribed DNA fragments as well as nontranscribed DNA fragments.

In comparison, a "cDNA library" is a clone library that differs from a genomic library in that it contains only transcribed DNA sequences and no nontranscribed DNA sequences. It is established using techniques that are well known in the art, i.e., selection of mRNA (e.g. by polyA) making single stranded DNA from a population of cytoplasmic mRNA molecules using the enzyme RNA-dependent DNA polymerase (i.e., reverse transcriptase), converting the single-stranded DNA into double-stranded DNA, cloning the resultant molecules into a vector, and introducing the vector into appropriate cells so as to establish the cDNA library. Alternately, a cDNA library need not be cloned into a vector and/or established in cells, but can be screened using PCR with gene-specific primers, as is well known in the art.

An "individual" is a vertebrate, preferably a mammal, more preferably a human.

*General Techniques*

The practice of the present invention will employ, unless otherwise indicated, conventional techniques of molecular biology (including recombinant techniques), microbiology, cell biology and biochemistry, which are within the skill of the art. Such techniques are explained fully in the literature, such as: "Molecular Cloning: A Laboratory Manual", second edition (Sambrook et al., 1989); "Oligonucleotide Synthesis" (M.J. Gait, ed., 1984); "Animal Cell Culture" (R.I. Freshney, ed., 1987); "Methods in Enzymology" (Academic Press, Inc.); "Gene Transfer Vectors for Mammalian Cells" (J.M. Miller & M.P. Calos, eds., 1987); "Current Protocols in Molecular Biology" (F.M. Ausubel et al., eds., 1987 and annual updates); "PCR: The Polymerase Chain Reaction", (Mullis et al., eds., 1994); "Current Protocols in Immunology" (J.E. Coligan et al., eds., 1991).

*Basis for identification and description of the polynucleotides and polypeptides*

The polynucleotide sequences were identified using oligonucleotide primers which were complementary to OR membrane-spanning regions. A number of different primers were used to elicit a variety of nucleotide sequences which encode polypeptides involved in olfactory sensation. The identification and isolation of nucleotide sequences which encode polypeptides involved in olfactory sensation and the polypeptides that they encode is vital for determining the response of receptors to odorant molecules, the elucidation of scent representations, profiles, or fingerprints, the reproduction of scent representations, profiles, or fingerprints and the editing of scent representations, profiles, or fingerprints.

*Polynucleotides encoding polypeptides involved in olfactory sensation*

The present invention provides isolated polynucleotides encoding polypeptides which are involved in olfactory sensation, vectors containing these polynucleotides, host cells containing these polynucleotides, and compositions comprising these polynucleotides. These polynucleotides are isolated and/or produced by chemical and/or recombinant methods, or a combination of these methods. The present invention includes polynucleotides isolated from the human olfactory epithelium which encode polypeptides which are involved in olfactory sensation, vectors containing these polynucleotides, host cells containing these polynucleotides, and compositions comprising these polynucleotides. Unless specifically stated otherwise,

"polynucleotides" shall include all embodiments of the polynucleotides of this invention. These polynucleotides are useful as probes, primers, in expression systems, and, in a preferred embodiment, in screening methods as described herein. In one embodiment the polynucleotides of the present invention can be isolated by creating a cDNA library using template RNA from human olfactory epithelium tissue. A detailed example is related in Example 1, below.

The advantage of constructing a cDNA library for isolation of the desired nucleotide sequences is that the likelihood of obtaining pseudogenes is greatly reduced compared to using a genomic DNA library for the same purpose. cDNA libraries contain only mRNA expressed in the tissue used for the construction of the library, in this case, the human olfactory epithelium. The preferred olfactory epithelium tissue should express only those nucleotide sequences which are relevant for olfactory function, thereby excluding nonfunctioning pseudogenes and also GPCRs which may be similar in primary structure (amino acid sequence) but are not encoded in OSNs. As the number of GPCRs utilized in human signal transduction pathways is extremely wide and varied, cDNA libraries constructed using olfactory tissue are preferable for isolating nucleotide sequences that encode polypeptides which are involved in olfactory sensation, inasmuch as genomic libraries can contain abundant nucleotide sequences which encode for a variety of GPCRs performing numerous functions, and are likely to contain pseudogenes.

The isolation of polynucleotide sequences which encode polypeptides involved in olfactory sensation is described in Example 1. Accordingly, this invention provides isolated polynucleotides that contain sequences encoding polypeptides or portions thereof which are involved in olfactory sensation, wherein the polypeptide is at least 10 amino acids in length, and wherein the polynucleotide sequences are depicted in SEQ ID NOs:1-73 and SEQ ID NOs:111-152.

The invention includes modifications to said polynucleotides described above such as deletions, substitutions, additions, or changes in the nature of any nucleic acid moieties. A "modification" is any difference in nucleotide sequence as compared to a polynucleotide shown herein to encode a polypeptide involved in olfactory sensation, and/or any difference in the nucleic acid moieties of the polynucleotide(s), wherein such a modified polynucleotide encodes a polypeptide involved in olfactory sensation or a variant of said polypeptide that is useful in the practice of the invention. Such changes can be useful to facilitate cloning and modify expression of polynucleotides encoding polypeptides which are involved in olfactory

sensation. Such changes also can be useful for conferring desirable properties to the polynucleotide(s), such as stability. The definition of polynucleotide provided herein gives examples of these modifications. Hence, the invention also includes variants of the nucleic acid sequences disclosed herein, which include nucleic acid substitutions, additions, and/or deletions.

The invention also encompasses polynucleotides encoding polypeptides involved in olfactory sensation, including polynucleotides that are full-length, processed, coding, non-coding (including flanking region) or portions thereof, provided that these polynucleotides contain a region encoding at least a portion of a polypeptide involved in olfactory sensation. (That is, the region encodes a functional fragment of an olfactory receptor or other polypeptide involved in olfactory sensation.) Also embodied are the mRNA, cDNA and genomic DNA sequences and fragments thereof that include a polynucleotide sequence comprising a coding sequence for a portion of a polypeptide involved in olfactory sensation.

Genes encoding human olfactory receptors, and optionally including related genomic sequences such as regulatory sequences, can be obtained using olfactory receptor cDNAs as hybridization probes. Under high stringency hybridization conditions, an OR cDNA will hybridize to its cognate OR gene. Use of lower stringency hybridization conditions allows the isolation of OR genes that are related to, but not identical with, the gene corresponding to a particular OR cDNA.

Conditions for hybridization are well-known to those of skill in the art and can be varied within relatively wide limits. Hybridization stringency refers to the degree to which hybridization conditions disfavor the formation of hybrids containing mismatched nucleotides, thereby promoting the formation of perfectly matched hybrids or hybrids containing fewer mismatches; with higher stringency correlated with a lower tolerance for mismatched hybrids. Factors that affect the stringency of hybridization include, but are not limited to, temperature, pH, ionic strength, and concentration of organic solvents such as formamide and dimethylsulfoxide. As is well known to those of skill in the art, hybridization stringency is increased by higher temperatures and/or lower ionic strengths. See, for example, Ausubel et al., supra; Sambrook et al., supra; M.A. Innis et al. (eds.) PCR Protocols, Academic Press, San Diego, 1990; B.D. Hames et al. (eds.) Nucleic Acid Hybridisation: A Practical Approach, IRL Press, Oxford, 1985; and van Ness et al., (1991) Nucleic Acids Res. 19:5143-5151. The degree of stringency can be adjusted not only during a hybridization reaction, but also in post-hybridization washes, as is known to those of skill in the art.

The invention also encompasses polynucleotides encoding polypeptides involved in olfactory sensation, functionally equivalent variants and derivatives of full-length polypeptides involved in olfactory sensation and functionally equivalent fragments. For instance, changes in a DNA sequence that do not change the encoded amino acid sequence, as well as those that result in conservative substitutions of amino acid residues, non-deleterious non-conservative substitutions, one or a few amino acid deletions or additions, and substitution of amino acid residues by amino acid analogs, will not significantly affect properties of the encoded polypeptide. Polypeptides homologous to the polypeptides encoded by the polynucleotides described herein can also be identified using algorithms and methods well-known to those of skill in the art, such as those described in Ausubel, "Current Protocols in Molecular Biology," Chapter 19; see also Altschul, S.F., Gish, W., Miller, W., Myers, E.W. & Lipman, D.J. (1990) "Basic local alignment search tool." J. Mol. Biol. 215:403-410; Gish, W. & States, D.J. (1993) "Identification of protein coding regions by database similarity search." Nature Genet. 3:266-272; Madden, T.L., Tatusov, R.L. & Zhang, J. (1996) "Applications of network BLAST server" Meth. Enzymol. 266:131-141; Altschul, S.F., Madden, T.L., Schäffer, A.A., Zhang, J., Zhang, Z., Miller, W. & Lipman, D.J. (1997) "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs." Nucleic Acids Res. 25:3389-3402; and Zhang, J. & Madden, T.L. (1997) "PowerBLAST: A new network BLAST application for interactive or automated sequence analysis and annotation." Genome Res. 7:649-656. A preferred method of determining homology is the BLAST set of similarity search programs (Altschul, S.F., Gish, W., Miller, W., Myers, E.W. & Lipman, D.J. (1990) "Basic local alignment search tool." J. Mol. Biol. 215:403-410. Polypeptides which are 40% homologous, 50% homologous, 60% homologous, 70% homologous, 80% homologous, 90% homologous, 95% homologous, or 99% homologous to the polypeptides encoded by the polynucleotides described herein are encompassed by the invention.

Nucleotide substitutions that do not alter the amino acid residues encoded can be useful for optimizing gene expression in different systems. Suitable substitutions are known to those of skill in the art and are made, for instance, to reflect preferred codon usage in the particular expression systems. In another example, alternatively spliced polynucleotides can give rise to different functionally equivalent fragments or variants of an polypeptide involved in olfactory sensation. Alternatively processed polynucleotide sequence variants are defined as polynucleotide sequences corresponding to mRNAs that differ in sequence from one another but are derived from the same genomic region, for example, mRNAs that result from: 1) the

use of alternative promoters; 2) the use of alternative polyadenylation sites; and/or 3) the use of alternative splice sites.

*Preparation of polynucleotides involved in olfactory sensation*

The polynucleotides of this invention can be obtained using chemical synthesis, recombinant methods, or PCR.

Methods of chemical polynucleotide synthesis are well known in the art and need not be described in detail herein. One of skill in the art can use the sequences provided herein and a commercial DNA synthesizer to produce a desired DNA sequence.

For preparing polynucleotides which encode polypeptides involved in olfactory sensation using recombinant methods, a polynucleotide comprising a desired sequence can be inserted into a suitable vector, and the vector in turn can be introduced into a suitable host cell for replication and amplification. Polynucleotides may be inserted into host cells by any means known in the art. Cells are transformed by introducing an exogenous polynucleotide by direct uptake, endocytosis, transfection, F-mating, particle bombardment, liposome mediation, or electroporation. Once introduced, an exogenous polynucleotide can be maintained within the cell as a non-integrated vector (such as a plasmid) or integrated into the host cell genome. The polynucleotide encoding a polypeptide involved in olfactory sensation can be isolated from the host cell by methods well known within the art. See, e.g., Sambrook et al. (1989).

Alternatively, PCR allows amplification of DNA sequences. PCR technology is well known in the art and is described in U.S. Pat. Nos. 4,683,195, 4,800,159, 4,754,065 and 4,683,202, as well as *PCR: The Polymerase Chain Reaction*, Mullis et al. eds., Birkhausw Press, Boston (1994).

RNA can be obtained in a number of ways in an appropriate vector and the vector is transformed into a suitable host cell. When the inserted DNA is transcribed into RNA, the RNA can then be isolated using methods well known to those of skill in the art, as set forth in Sambrook et al., (1989), for example. RNA can also be obtained through in vitro reactions. For example, the polynucleotide, which encodes a polypeptide involved in olfactory sensation, can be inserted into a vector that contains appropriate transcription promoter sequences. Commercially available RNA polymerases will specifically initiate transcription at their promoter sites and continue the transcription process through the adjoining DNA polynucleotides. Placing the polynucleotide sequences which encode polypeptides involved in

olfactory sensation between two such promoters allows the generation of sense or antisense strands of desired RNA.

***Cloning and expression vectors comprising polynucleotide sequences encoding polypeptides involved in olfactory sensation***

The present invention further includes a variety of vectors containing polynucleotides encoding polypeptides involved in olfactory sensation. These vectors can be used for expression of recombinant polypeptides as well as a source of polynucleotides which encode polypeptides involved in olfactory sensation. Cloning vectors can be used to obtain replicate copies of the polynucleotides, which encode polypeptides involved in olfactory sensation, they contain, or as a means of storing the polynucleotides in a depository for future recovery. Expression vectors (and host cells containing these expression vectors) can be used to obtain polypeptides produced from the polynucleotides they contain. Suitable cloning and expression vectors include any known in the art, e.g., those for use in in vitro, bacterial, mammalian, yeast and insect expression systems. Specific vectors and suitable host cells are known in the art and need not be described in detail herein. For example, see Gacesa and Ramji, *Vectors*, John Wiley & Sons (1994).

Cloning and expression vectors typically contain a selectable marker (for example, a gene encoding a protein necessary for the survival or growth of a host cell transformed with the vector), although such a marker gene can be carried on another polynucleotide sequence co-introduced into the host cell. Only those host cells into which a selectable marker has been introduced will survive and/or grow under selective conditions. Typical selectable markers encode protein(s) that (a) confer resistance to antibiotics or other toxins substances, e.g., ampicillin, neomycin, methotrexate, etc.; (b) complement auxotrophic deficiencies; or (c) supply critical nutrients not available from complex media. The choice of the proper marker gene will depend on the host cell, and appropriate genes for different hosts are known in the art. Cloning and expression vectors also typically contain a replication system recognized by the host.

Suitable cloning vectors may be constructed according to standard techniques, or may be selected from a large number of cloning vectors available in the art. While the cloning vector selected may vary according to the host cell intended to be used, useful cloning vectors will generally have the ability to self-replicate in an appropriate host, may possess a single target for one or more particular restriction endonucleases, and/or may carry genes for a marker

that can be used in selecting clones containing the vector. Suitable examples include plasmids and bacterial viruses, e.g., pUC18, pUC19, m13mp18, m13mp19, pBR322, pMB9, ColE1, pCR1, RP4, phage DNAs, and shuttle vectors such as pSA3 and pAT28. These and many other cloning vectors are available from commercial vendors such as BioRad, Stratagene, and Invitrogen.

Expression vectors generally are replicatable polynucleotide constructs that contain a polynucleotide encoding an polypeptide involved in olfactory sensation of interest. The polynucleotide, which encodes a polypeptide involved in olfactory sensation, encoding the polypeptide is operatively linked to suitable transcriptional controlling elements, such as promoters, enhancers and terminators. For expression (i.e., translation), one or more translational controlling elements are also usually required, such as ribosome binding sites, translation initiation sites, and stop codons. These controlling elements (transcriptional and translational) may be derived from the gene encoding polypeptides involved in olfactory sensation, or they may be heterologous (i.e., derived from other genes and/or other organisms). A polynucleotide sequence encoding a signal peptide can also be included to allow a polypeptide involved in olfactory sensation to cross and/or lodge in cell membranes or be secreted from the cell. A number of expression vectors suitable for expression in eukaryotic cells including yeast, insect, avian, plant and mammalian cells are known in the art. Common vectors, such as YEp13 and the Sikorski series pRS303-306, 313-316, 423-426 can also be used. Vectors pDBV52 and pDBV53 are suitable for expression. Another example of an expression vector/host cell system is the baculovirus (*e.g.*, nuclear polyhedrosis virus)/insect cell (*e.g.*, sf9 cells) system.

Human olfactory receptor polypeptides are expressed from olfactory receptor cDNA by methods well-known to those of skill in the art. A cDNA or portion thereof is inserted in an expression vector using standard molecular cloning techniques. Coupled in vitro transcription and translation of such a vector results in expression of the OR protein encoded by the cDNA. In vivo expression of a OR polypeptide is accomplished by inserting an OR cDNA into a eucaryotic or procaryotic expression vector, of which many are known in the art, to genereate an OR expression construct. The OR expression construct is introduced into an appropriate host cell in which the OR sequences are expressed (by transcription and translation) and optionally secreted, and the expressed OR polypeptide is obtained from the cell growth medium and/or from cell lysates.

A number of expression vectors are known in the art. Prokaryotic expression vectors include, but are not limited to, T7 RNA polymerase/T7 promoter-based vectors, bacteriophage λ-based vectors and various types of fusion vectors. Fusion vectors include, but are not limited to, lacZ and trpE fusion vectors, maltose binding protein fusion vectors, glutathione-S-transferase fusion vectors, and thioredoxin fusion vectors. Baculovirus-based vectors are used for expression in insect cell systems. Expression in mammalian cells (such as HEK, COS and CHO cells) utilizes vectors containing a mammalian origin of replication (such as, for example, a SV40 origin), an efficient promoter (optionally including one or more enhancer sequences), mRNA processing signals (e.g., splice sites and polyadenylation sites), one or more selectable markers, and optionally a prokaryotic replicon to allow propagation and manipulation of the construct in prokaryotic cells. Alternatively, expression in mammalian cells is achieved through the use of any of a number of mammalian viral vectors including, but not limited to, retroviruses, lentiviruses, Semliki Forest viruses, vaccinia viruses, adenoviruses and adeno-associated viruses.

Vectors containing the polynucleotides of interest can be introduced into the host cell by any of a number of appropriate means, including electroporation, direct injection, transfection employing calcium chloride, rubidium chloride, calcium phosphate, DEAE-dextran, or other substances; microprojectile bombardment; lipofection; and infection (where the vector is an infectious agent, such as a virus). The choice of means of introducing vectors or polynucleotides encoding polypeptides involved in olfactory sensation will often depend on the host cell, as will be well known to those of skill in the art.

***Host cells transformed with polynucleotides encoding polypeptides involved in olfactory sensation***

Another embodiment of this invention are host cells transformed with (i.e., comprising) polynucleotides encoding polypeptides involved in olfactory sensation, and/or vectors having polynucleotide(s) sequences encoding polypeptides involved in olfactory sensation, as described above. Both prokaryotic and eukaryotic host cells may be used. Prokaryotic hosts include bacterial cells, for example *E. coli*, *B. subtilis*, and mycobacteria. Among eukaryotic hosts are yeast, insect, avian, plant and mammalian cells. Host systems are known in the art and need not be described in detail herein.

The host cells of this invention can be used, *inter alia*, as repositories of polynucleotides encoding polypeptides involved in olfactory sensation, and/or vehicles for

production of polynucleotides encoding polypeptides involved in olfactory sensation, and/or polypeptides involved in olfactory sensation . They may also be used as vehicles for *in vivo* delivery of polypeptides involved in olfactory sensation .

***Uses for and methods using polynucleotides encoding polypeptides involved in olfactory sensation***

To determine whether a vector containing polynucleotides is capable of expressing in eukaryotic cells, cells such as, for example, COS-7 (primate origin), CHO (rodent origin), HEK-293 (human origin), or HeLa (human origin) cells can be transfected with the vector. Expression of a polypeptide(s) encoded by the vector is then determined by, for example, RIA, ELISA, immunofluorescence of fixed cells, or western blotting of cell lysate using an antibody as a probe. Antibodies can be obtained using, as immunogen, peptide sequences synthesized from the protein sequences encoded by the known polynucleotide sequence. Polypeptides can be purified by, for example, phase partitioning, affinity methods, gel filtration and ion exchange, as well as additional methods known by those skilled in the art. Further characterization of the expressed polypeptide can be achieved by purification of the polypeptide using techniques known in the art.

***Polypeptides involved in olfactory sensation***

The present invention encompasses polypeptides involved in olfactory sensation. Expression of said polypeptides is localized in the olfactory neurons located in the olfactory epithelium, as described earlier. The polypeptides may comprise any novel sequence encoded by a nucleotide sequence as depicted in SEQ ID NO:1 through SEQ ID NO:73 and SEQ ID NO:111 through SEQ ID NO:152.

The invention includes modifications to polypeptides involved in olfactory sensation including functionally equivalent fragments of the polypeptides involved in olfactory sensation which do not significantly affect their properties and variants which may have enhanced or decreased activity. Collectively, these modifications may be termed "analogs" of or a fragment of polypeptides involved in olfactory sensation. Modification of polypeptides is routine practice in the art and need not be described in detail herein. Examples of modified polypeptides include polypeptides with conservative substitutions of amino acid residues, one or more deletions or additions of amino acids which do not significantly deleteriously change the functional activity, or use of chemical analogs. Amino acid residues which can be conservatively substituted for

one another include but are not limited to: glycine/alanine; valine/isoleucine/leucine; asparagine/glutamine; aspartic acid/glutamic acid; serine/threonine; lysine/arginine; and phenylalanine/tyrosine. Such conservative substitutions are known in the art, and preferably, the amino acid substitutions would be such that the substituted amino acid would possess similar chemical properties as that of the original amino acid. These polypeptides also include glycosylated and non-glycosylated polypeptides, as well as polypeptides with other post-translational modifications, such as, for example, glycosylation with different sugars, acetylation, and phosphorylation. Amino acid modifications can range from changing or modifying one or more amino acids to complete redesign of a region. Other methods of modification include using coupling techniques known in the art, including, but not limited to, enzymatic means, oxidative substitution and chelation. Modified polypeptides involved in olfactory sensation are made using established procedures in the art.

The invention also encompasses fusion proteins comprising one or more polypeptides involved in olfactory sensation. For purposes of this invention, an fusion protein contains one or more polypeptides involved in olfactory sensation and another amino acid sequence to which it is not attached in the native molecule, for example, a heterologous sequence or a homologous sequence from another region. Useful heterologous sequences include, but are not limited to, sequences that provide for secretion from a host cell, intracellular trafficking, and stability/degradation. Other useful heterologous sequences are ones which facilitate purification. Examples of such sequences are known in the art and include those encoding epitopes such as Myc, HA (derived from influenza virus hemagglutinin), His-6, or FLAG. Other heterologous sequences that facilitate purification are derived from proteins such as glutathione S-transferase (GST), maltose-binding protein (MBP), or the Fc portion of immunoglobulin.

*Preparation of polypeptides involved in olfactory sensation*

The polypeptides of this invention can be made by procedures known in the art. The polypeptides can be produced by recombinant methods (i.e., single or fusion polypeptides) or by chemical synthesis. Polypeptides, especially shorter polypeptides up to about 50 amino acids, are conveniently made by chemical synthesis. Methods of chemical synthesis are known in the art and are commercially available. For example, a polypeptide can be produced by an automated polypeptide synthesizer employing the solid phase method. Polypeptides can also be made by chemical synthesis using techniques known in the art.

Polypeptides can also be made by expression systems, using recombinant methods. The availability of polynucleotides encoding polypeptides permits the construction of expression vectors encoding intact (i.e., native) polypeptide, functional equivalents and functional fragments thereof, modified forms or recombinant forms. A polynucleotide encoding the desired polypeptide, or a fusion protein, can be ligated into an expression vector suitable for any convenient host. Both eukaryotic and prokaryotic host systems can be used. The polypeptide is then isolated from lysed cells or from the culture medium and purified to the extent needed for its intended use. Purification or isolation of the polypeptides expressed in host systems can be accomplished by any method known in the art ( e.g. partitioning exclusion, ion exchange chromatograph, gel filtration, etc.). Other controlling transcription or translation segments, such as signal sequences that direct the polypeptide to a specific cell compartment (i.e., for secretion), can also be used. Examples of prokaryotic host cells are known in the art and include, for example, *E. coli* and *B. subtilis*. Examples of eukaryotic host cells are known in the art and include yeast, avian, insect, plant, and animal cells such as COS7, HeLa, CHO, HEK-293 and other mammalian cells.

Alternatively, in vitro expression systems may also be used to produce polypeptides involved in olfactory sensation. A plasmid containing a polynucleotide encoding polypeptides involved in olfactory sensation, under the control of an appropriate promoter, can be transcribed and the resultant RNA translated in vitro through the use of commercially available reagents. Such methods can be used to produce relatively pure samples of the polypeptide and are known in the art.

Preferably, the polypeptides are at least partially purified from other cellular constituents. In one embodiment, the polypeptides are at least 70%, more preferably at least 80%, even more preferably at least 90% or most preferably at least 95% pure. In this context, purity can be calculated as a weight percent of the total protein content of the preparation. More highly purified polypeptides may also be obtained and are encompassed by the present invention. Methods of protein purification are known in the art and are not described in detail herein. For membrane-bound proteins, the lipid content of the preparation, which is required to maintain the structure and function of the protein, is excluded from the purity calculation. That is, if a preparation weighing 10 mg has 5 mg lipid, 4 mg of desired protein, and 1 mg of undesired proteins, the purity is calculated as 80% (desired protein content divided by total protein content). Preparations of biological or synthetic molecules suitable for maintaining structure and function of membrane proteins are described in Etemadi AH (1985) *Adv Lipid*

*Res* 1985;21:281-428; Villalobo A (1990) *Biochimica Et Biophysica Acta*, 1017(1):1-48; Montal M (1987) *Journal Of Membrane Biology* 98(2): 101-115; Scotto AW et al. (1987) *Biochemistry* 26(3): 833-839; Jain MK and Zakim D (1987) *Biochimica Et Biophysica Acta* 906(1): 33-68; Czerski L and Sanders CR (2000) *Anal Biochem* 284(2):327-33 (lipid-detergent mixtures or "bicelles"); Hrafnsdottir S and Menon AK (2000) *J Bacteriol* 182(15):4198-206 (proteoliposomes); Puu G et al. (2000) *Biosens Bioelectron* 15(1-2):31-41 (protein-lipid preparations on solid surfaces); Schafmeister CE et al. (1993) *Science* 262(5134):734-8 ("peptitergents").

***Uses of polypeptides involved in olfactory sensation***

The polypeptides of this invention have a variety of uses. They can be used, for example, to screen odorant ligands in order to determine the scent representations, scent profiles or scent fingerprints of particular odorant molecules and further to characterize the effect of functional groups and chemical characteristics on perceived smell. Methods for screening odorant compounds using odorant receptors in neuronal cells are known in the art (Firestein et al., WO 98/50081; Duchamp-Viret *et al., Science* 1999, **284** 2171-2174; Sato *et al., J. Neurophys.* 1994 **72** 2980-2989; Malnic *et al, Cell* 1999 **96** 713-723; Zhao *et al., Science* 1998 **279**, 237-242). There are also methods which can be employed to screen odorant compounds which do not require neuronal cells and are known in the art (Kauvar et al., U. S. Pat. No. 5,798,275; Kiefer *et al., Biochemistry* 1996 **35** 16077-16084; Krautwurst *et al., Cell* 1998 **95** 917-926),

Analysis of the scent can be performed in a number of ways. Various embodiments of the scent analysis system are presented. Examples of how these embodiments might operate are also presented, although it should be emphasized that the invention is not limited by any particular theory of olfactory perception or scent analysis.

<u>*Olfactory Space*</u>

The sensory subsystem comprises a series of olfactory receptors, which selectively bind with the chemical component(s) making up the scent. The scent can be characterized in terms of which of the approximately 1,000 olfactory receptors the scent component(s) bind to, and the strength of the interaction of the component(s) with those receptors. Each olfactory receptor can be considered an orthogonal basis vector; the entire set of olfactory receptors can be considered a set of basis vectors spanning "olfactory space." This is analogous to vectors

pointing along the x, y, and z directions in three-dimensional space, where any point in space can be represented by a combination of the x, y, and z basis vectors (with each of the x, y, and z vectors multiplied by the appropriate scalar quantity). The intensity of interaction of a scent with an olfactory receptor determines the magnitude of the vector along that particular "axis" in olfactory space. Thus, every scent can be uniquely described by a vector representation in olfactory space.

A representation of a scent in such a manner that the scent can later be re-created is defined as scent profiling. The aforementioned vector representation is one example of a scent profile.

*Primary Scents*

For the purposes of this invention, a receptor primary scent component is defined as a chemical that interacts with one and only one scent receptor. A receptor complex scent component is defined as a chemical that interacts with more than one scent receptor; the receptor complex scent component can interact with each of the scent receptors to different degrees, to equal degrees, or can interact with some receptors to the same degree and others to different degrees.

Olfactory receptors are proteins which fall in the class of seven transmembrane domain G protein-coupled receptors, and are found in olfactory neurons *in vivo*. Binding of an odorant to an olfactory receptor causes second messenger systems to become activated or inhibited in the cell, leading to increased cellular production of second messenger molecules such as cyclic AMP. These second messenger systems in turn lead to the depolarization of the olfactory neuron, or other changes in the state of the neuron, which provides the signal to the nervous system that the odorant has been detected.

With a complete set of receptor primary scent components, any scent can be re-created with the knowledge to the degree to which it interacts with each olfactory receptor. The instant invention encompasses such complete sets of receptor primary scent components. Other embodiments of the invention encompass sets of receptor primary scent component chemicals which provide the ability to re-create a particularly desired subset of scents, but not necessarily all possible scents. Still more embodiments encompass sets of receptor primary scent component chemicals which provide the ability to approximate particular scents, while not necessarily exactly re-creating the interaction profile of the particular scents.

In some cases, a receptor complex scent will be an acceptable approximation to a receptor primary scent. That is, if a given receptor complex scent interacts with a first scent receptor strongly, but interacts with other scent receptors less strongly, it can be considered an approximation to a receptor primary scent component for the first receptor. Such a receptor complex scent component is described by the term receptor quasi-primary scent component. One embodiment of the invention encompasses sets of receptor quasi-primary scent component chemicals suitable for re-creating all scents. Another embodiment of the invention encompasses sets of receptor quasi-primary scent component chemicals suitable for re-creating a particularly desired subset of scents, but not necessarily all possible scents. Yet another embodiment encompasses sets of receptor quasi-primary scent component chemicals which provide the ability to approximate particular scents, while not necessarily exactly re-creating the interaction profile of the particular scents.

The identification of receptor primary or quasi-primary scent component chemicals provides the most conceptually straightforward method of re-creating scents. However, another embodiment of the invention encompasses the use of receptor complex scent components for re-creating scents. An example of such an embodiment would be re-creation of a scent that activates olfactory receptors designated OR1, OR2, OR3, OR4, OR5 and OR6 (for the sake of illustration, it is assumed that the olfactory receptors are stimulated to an equal extent). If one is in possession of two receptor complex scent component chemicals (RCSC's) where RCSC1 activates OR1 and OR5, and RCSC2 activates OR2, OR3, OR4, and OR6, then one can reproduce the original scent by mixing RCSC1 and RCSC2 to re-create the original olfactory receptor activation profile. In practice, the profiles of various receptor complex scent components will be much more complicated than the forgoing example, and components which inhibit olfactory activation as well as stimulate activation can be included in the sets. However, once receptor activation profiles of sufficient receptor complex scent components are known, computer algorithms can be utilized to create the appropriate combination of receptor complex scent components. Using vector representations of the olfactory receptor activation profiles for a set of receptor complex scent components, one can create linear combinations of such receptor complex scent components in order to represent a particular scent. For the example given above, such a vector representation would look like (1, 0, 0, 0, 1, 0) for the first receptor complex scent component and (0, 1, 1, 1, 0, 1) for the second receptor

complex scent component, while the vector representation of the scent to be re-created is (1, 1, 1, 1, 1, 1). If $x_1$ and $x_2$ are the relative proportions of the first receptor complex scent component and the second receptor complex scent component, respectively, to be combined to re-create the scent, then the problem can be represented as a series of linear equations:

$$\begin{array}{ccccc} 1x_1 & + & 0x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \\ 1x_1 & + & 0x_2 & = & 1 \\ 0x_1 & + & 1x_2 & = & 1 \end{array}$$

and the solutions for $x_1$ and $x_2$ are $x_1 = 1$, $x_2 = 1$. Solutions to systems of linear equations have been thoroughly studied and many algorithms are available for implementation on computers, including algorithms which evaluate the accuracy of an approximate solution when an exact solution cannot be determined. (See, e.g., Dettman, J.W., *Introduction to Linear Algebra and Differential Equations*, Dover Pubs., 1986; Press W.H. et al., *Numerical Recipes in C: The Art of Scientific Computing*, 2nd ed., Cambridge University Press, 1993; Vetterling (ed.) *Numerical Recipes in C: The Art of Scientific Computing/Disk V 2.02*, Cambridge University Press, 1997.) These methods can also be used to determine whether a set of receptor complex scent components is suitable for re-creating a given scent. For example, if the scent to be recreated is represented by the vector (1, 1, 1, 1, 1, 2), there will be no solution to the resulting system of linear equations using the two receptor complex scent components in the illustration above. In this instance, one or more additional receptor scent components will need to be identified in order to be able to re-create the scent in terms of the receptor primary scent components. Alternatively, the scent represented by (1, 1, 1, 1, 1, 1) may be an acceptable approximation to the scent represented by (1, 1, 1, 1, 1, 2). Integers are used in this example for clarity, but the vectors can contain any real number representing a measured intensity; for example, (1.1, 0.997, 1.08, 1.2, 0.88888..., 2.00001) may be an acceptable approximation to the scent represented by (1, 1, 1, 1, 1, 2).

It will be readily appreciated that the choice of a complete set of receptor primary, quasi-primary, or complex scent component chemicals (capable of generating all scents) versus a partial set of receptor primary, quasi-primary, or complex scent component chemicals (capable of generating, exactly or approximately, a subset of scents) depends on the application for which scent re-creation is desired.

A special category of receptor scent components are chemicals which bind to a receptor without activating it. If these non-activating chemicals prevent chemicals which do activate the receptors from binding, the non-activating chemicals act to "turn off" those receptors. These non-activating chemicals, or receptor binding antagonists, are particularly useful in editing scents, as they can be added to a scent to attenuate or eliminate particular aspects of the scent. In the vector example above, if a particular receptor antagonist blocks OR2, OR3, and OR4, but not OR1, OR5 or OR6, then it can be represented in vector format as (0, -1, -1, -1, 0, 0). In the reproduction of (1, 1, 1, 1, 1, 2) from the vectors (1, 0, 0, 0, 1, 0) and (0, 1, 1, 1, 0, 1), the following combination can be used: 1 x (1, 0, 0, 0, 1, 0) + 2 x (0, 1, 1, 1, 0, 1) + 1 x (0, -1, -1, -1, 0, 0) to yield the vector (1, 1, 1, 1, 1, 2). In some instances, enough of a particular receptor binding antagonist is used to eliminate any possibility of activation by a receptor scent component, in which case the vector entry for the receptor(s) which are blocked by that antagonist contains 0 in the vector position corresponding to that receptor(s).

Perceptive primary scents are defined as scents that give a single scent perception, for example, the scent "lemon" as perceived by a human. A perceptive primary scent can be composed of one or more receptor primary scent components, one or more receptor complex scent components, or a mixture of one or more receptor primary scent components and one or more receptor complex scent components. Since perceptive primary scents are to some extent subjective, identification of perceptive primary scents can be performed by using a panel of subjects who evaluate and describe scents. A perceptive complex scent is made up of more than one perceptive primary scent. The boundaries between a perceptive primary scent and a perceptive complex scent are also to some extent subjective; for example, one person may describe a scent as "pizza," while another person may describe the same scent as "sausage, cheese and tomato sauce." That is, one person may perceive a scent as a perceptive primary scent for "pizza," while another person may perceive the same scent as a perceptive complex scent made up of several individual perceptive primary scents. In order to standardize perceptive scents, a panel of five or more, preferably ten or more, more preferably fifty or

more, still more preferably one hundred or more, people can be surveyed to label various perceptive scents. When a plurality, preferably a majority, more preferably 66 2/3 % or greater, still more preferably 95 % or greater, even more preferably 99% or greater, of the panel identifies a scent as the same scent (e.g., of a panel of 100 people, 95 describe a scent as "pizza," while the other 5 describe the scent otherwise), the scent can be labeled as a perceptive scent (the perceptive scent can be primary or complex, depending on whether the panel identifies it as a single scent or a mixture of scents).

In fields where existing classification schemes already exist, the perceptive primary and complex scents can be indexed according to those schemes. For example, the SFP (Société Française des Parfumeurs) has drawn up a classification system based on 5 main groups, sub-divided into classes. Such a classification can be used for selecting perceptive primary scents and used as guides for combining the scents.

*Selecting Chemicals for Scent Re-creation*

A scent which has been represented as a set of basis vectors in olfactory space can in principle be re-created simply by mixing the receptor primary scent components, receptor quasi-primary scent components, or receptor complex scent components needed to interact the olfactory receptors in the same pattern as the original scent. Such an approach requires 1) a method to generate a representation of the original scent in olfactory space, and 2) suitable receptor primary scent component chemicals which can be mixed in the appropriate manner.

Identification of receptor scent components can be performed by various methods. One such method assays the interaction of candidate components with each olfactory receptor. The receptors can be expressed *in vitro* and assays can be set up to monitor the interaction of various candidate components with each individual receptor. Chemicals which interact with one and only one olfactory receptor are receptor primary scent components, while chemicals which interact with more than one olfactory receptor are receptor complex scent components (and can possibly be receptor quasi-primary scent components, depending on the interaction profile it displays with the olfactory receptors). Such an approach can use methods known in the art, for example those of Breer *et al*, Ann. N. Y. Acad. Sci. (1998) 855:175-81 or Malnic *et al.*, *Cell* (1999) 96(5):713-23. Breer *et al.* expressed olfactory receptors in Sf9 cells and evaluated the second-messenger response to various odorants. Malnic *et al.* isolated olfactory neurons from mice and utilized calcium imaging to study the response of the neurons to different odorants, while using RT-PCR to determine which olfactory receptor was expressed

in the neuron under study. U.S. Patent No. 5,798,275 describes a method for evaluating interaction of compounds with members of a reference panel of proteins. WO 98/50081 discloses methods for detecting particular odorant ligand specificity for particular odorant receptors in nasal epithelium tissue of mammals such as rats and mice.

*Selection of Receptor Primary Scents by in silico Methods*

An alternative method utilizes *in silico* screening techniques--that is, computer simulation methods--for selecting candidate components. Protein-ligand screening can be used to select compounds which bind to particular receptors in order to identify receptor primary scent components. Examples of such programs are DOCK, AutoDock, GOLD, FlexX, LUDI, GROWMOL, and HOOK. (See Wang, J., Kollman, P.A., Kuntz I.D., "Flexible ligand docking: a multistep strategy approach," *Proteins* 36(1):1-19 (1999) and references therein.) These programs function by taking a protein structure and either matching compounds of known structure to the protein structure to determine the protein-ligand interaction, or by "growing" a molecule in the active site or binding site of a protein to determine what molecule will best interact with the protein.

Olfactory receptor proteins are membrane proteins, and experimental determination of the three-dimensional structures of membrane proteins has lagged the corresponding structural determination of water-soluble proteins for various reasons. However, alternative methods for constructing the three-dimensional structures of proteins are available. The primary (amino acid) sequences of many olfactory receptors are known. This information can be used to model a three-dimensional structure of a receptor protein using various algorithms and computer programs known in the art. The resulting model structure can then be used as the basis for evaluating interaction of candidate components with the receptor.

Alternatively, given known chemical structures which give rise to a particular odor, analysis of the structures can indicate the particular portion of the chemical structure which is responsible for the odor. This is analogous to "pharmacore analysis" used in medicinal chemistry to determine the important portion of drugs.

Methods for developing compounds which bind to receptors and other proteins of known structure, and determining interactions between ligands and receptors, are described in various references The DOCK program evaluates the fit of a ligand into a protein molecule of known structure (see Gschwend, D.A., Good, A.C. and Kuntz, I.D., "Molecular Docking Towards Drug Discovery", *J. Mol. Recognition* 9, 175-86 (1996); Kuntz, I.D., Meng, E.C., and

B.K. Shoichet, "Structure-Based Strategies For Drug Design and Discovery", *Acc. Chem. Res.* 27, 117-123 (1994); and Kuntz, I.D., "Structure-based strategies for drug design and discovery", *Science* 257, 1078-1082 (1992); see also http://www.cmpharm.ucsf.edu/kuntz/dock.html). Using a known (or modeled) structure of an olfactory receptor, DOCK can be used to screen for compounds which bind to the receptor. The program AMBER (see Cornell, WD, Cieplak P, Bayly CI, Gould IR, Merz KM Jr, Ferguson DM, Spellmeyer DC, Fox T, Caldwell JW and Kollman PA. "A second generation force field for the simulation of proteins and nucleic acids," *Journal of the American Chemical Society* 117, 5179-5197 (1995); Computer Simulation of Biomolecular Systems, A. Wilkinson, P. Weiner, W. Van Gunsteren, eds. Volume 3, p. 83-96, P. Kollman, R. Dixon, W. Cornell, T. Fox, C. Chipot and A. Pohorille; Bayly CI, Cieplak P, Cornell WD and Kollman PA. "A well-behaved electrostatic potential based method using charge restraints for deriving atomic charges - the RESP model," *Journal of Physical Chemistry* 97(40), 10269-10280 (1993); Cornell WD, Cieplak P, Bayly CI and Kollman PA. "Application of RESP charges to calculate conformational energies, hydrogen bond energies, and free energies of solvation," *Journal of the American Chemical Society* 115(21), 9620-9631 (1993); see also http://www.amber.ucsf.edu/amber/amber.html) can be used to calculate more precise interaction energies between candidate ligands. Other examples of such methods are described in, for example, U.S. Patent No. 5,866,343, directed to determining the energetically favorable binding site between two molecules; U.S. Patent No. 5,854,992, a system and method for structure-based drug design which takes into account binding free energy as it "grows" candidate molecules into a receptor binding site; and U.S. Patent No. 5,495,423, which describes a method for ligand design (principally applicable to peptidic ligands).

The foregoing methods typically depend on a known three-dimensional structure for the receptor. When such a structure cannot or has not been determined experimentally, a structure can be modeled using computer algorithms. Blundell TL, Sibanda BL, Sternberg MJ, Thornton JM, "Knowledge-based prediction of protein structures and the design of novel molecules," *Nature* 326(6111):347-52 (1987); Shortle D, "Structure prediction: The state of the art," *Curr Biol* 9(6):R205-9 (1999), Morea V, Leplae R, Tramontano A, "Protein structure prediction and design," *Biotechnol Annu Rev* 4:177-214 (1998) and Onuchic JN, Luthey-Schulten Z, Wolynes PG, "Theory of protein folding: the energy landscape perspective," *Annu Rev Phys Chem* 48:545-600 (1997) address various methods of predicting protein structure from sequence data.

Various implementations for predicting protein structure from amino acid sequences are discussed in U.S. Patent Nos. 5,878,373 and 5,884,230.

If the structure, or even the identity, of the targeted receptor cannot be determined, alternative computational techniques can be used to generate information regarding possible ligands which will interact with the receptor. Quantitative structure-activity relationships (QSAR; see Green, S.M. and Marshall, G.R., "3-D QSAR: A current perspective," Trends Pharmacol Sci 16:285 (1995); and 3D QSAR in Drug Design: Theory, Methods and Applications, Kubinyi, H. Ed.; Escom, Leiden.), including QSAR refinements such as comparative molecular field analysis (ComFA) (Cramer, R. D. et al. "Comparative Molecular Field Analysis ComFA 1. Effect Of Shape On Binding Of Steroids To Carrier Proteins," *J. Am. Chem. Soc.* 110: 5959 (1988)); and pharmacophore mapping (Martin YC, Bures MG, Danaher EA, DeLazzer J, Lico I, Pavlik PA, "A fast new approach to pharmacophore mapping and its application to dopaminergic and benzodiazepine agonists," *J Comput Aided Mol Des* 7(1):83-102 (1993)) have been used to design pharmacophores that can interact with the receptor. U.S. Patent No. 5,699,268 provides a method for producing computer-simulated receptors which functionally mimic biological receptors; the simulated receptors are essentially abstractions of structurally useful information from compounds which are known to interact with a receptor. U.S. Patent No. 5,901,069 describes a method of automatically refining a set of chemicals using structure/activity data. U.S. Patent No. 5,862,514 describes a method of simulating synthesis of compounds of desired biological activity and evaluating their activity via further simulations.

Application of structure-function relationships to classification of odors has been described by Chastrette M., Rallet E. "Structure-minty odour relationships: Suggestion of an interaction pattern," *Flavour and Fragrance Journal*, 13(1):5-18 (1998); Chastrette M., De Saint Laumer J.Y.,; Peyraud J.F., "Adapting the structure of a neural network to extract chemical information. Application to structure-odour relationships," *SAR QSAR Environ Res* 1 (2-3):221-231 (1993), Chastrette M., "Trends in structure-odor relationships," *SAR QSAR Environ Res* 6(3-4):215-254 (1997) and Jain et al., "A shape-based machine learning tool for drug design," *J Comput Aided Mol Des* 8(6):635-652 (1994). These methods can be useful in determining the "chemical distance" between odors. For example, isoamyl acetate is typically experienced as a banana-like odor, while octyl acetate is typically experienced as an orange-like odor, which gives a measure of how the chain length of the alkoxy portion of the ester influences perception.

*Olfactory Receptors and Libraries of Olfactory Receptors*

The olfactory receptors of the invention can be used to analyze and describe the interaction of scent odorant molecules with each receptor. This can be done individually, receptor-by-receptor and odorant molecule by odorant molecule. However, a combinatorial approach provides a much more powerful method of analyzing and describing the interaction of scent odorant molecules with olfactory receptors.

In one embodiment, the invention comprises libraries of olfactory receptors. These libraries are used to screen compositions for interaction with receptors. A composition can be a single compound (essentially a pure chemical), or a mixture of two or more compounds or chemicals. The compositions can be presented to the library in vapor form, or in solutions, typically aqueous solutions.

The method for determining the binding pattern of a composition with olfactory receptors comprises the steps of: exposing the composition to an olfactory receptor library; and determining whether the composition binds to each olfactory receptor of the library, thereby determining the overall binding patter of the composition. While it is desirable to determine whether the composition binds to each of the olfactory receptors, in certain cases, determining the binding pattern to a subset of the receptors is suitable. Such a situation can arise if the complete pattern is not needed, or if the experiment cannot determine binding to a receptor for a particular reason. (Determining the binding to a subset is equivalent to reducing the olfactory receptor library to that subset of receptors.)

Typically, the libraries are prepared as arrays, where the position of each olfactory receptor is known on the array. The arrays can take the form of multiwell plates, solid substrates such as chips or wafers, or any other form allowing identification of the receptor location. The arrays can be prepared in order to simply assess binding, or can be prepared in order to assess degree of activation as described above, using, for example, the technique of Malnic *et al.*, *Cell* 1999 **96**, 713-723. Alternatively, an *in silico* array of structures can be prepared, using the known primary structure of the receptors and the modeling techniques described above.

The libraries contain at least two olfactory receptors. In increasing order of preference, the libraries contain at least 5, 10, 20, 30, 40, 50, 75, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1200, 1400, 1500, 1600, 1800, or 2000 olfactory receptors. The

receptors are presented as ordered arrays. For example, a 96-well plate can contain 96 receptor preparations. Upon exposure to a composition, the plate can be scanned, and the response of each receptor in each well can be evaluated. This leads to a 96-element vector description of the composition in terms of those 96 olfactory receptors.

In one embodiment, binding to the olfactory receptors is assessed. In another embodiment, the approximate binding constant of the composition to the olfactory receptors is determined. In yet another embodiment, the degree of activation of the olfactory receptor by the composition is determined. For receptor antagonists, binding will occur, but no activation will occur; the invention embraces the identification of such antagonists.

The compositions for use are varied. A set of all volatile compounds can be used. A standard set of perfumes or odorants can be used. A set of commercially used scents can be used. Sets of compounds particularly useful in the invention are disclosed in co-pending United States Patent Application Serial No. 09/620,753. However, it must be emphasized that the invention is not limited to any one set or classification of compounds.

Preferred subsets of olfactory receptor polynucleotide sequences include:

SEQ ID NOS: 163, 331, 414, 425,672, 762, 919, and 1027;

SEQ ID NOS: 809 and 1067;

SEQ ID NO: 744;

SEQ ID NOS: 207, 336, 441, and 615;

SEQ ID NOS: 157, 168, 197, 221, 250, 334, 340, 412, 413, 459, 491, 618, 690, 694, 759, 760, 761, 767, 819, 860, 872, 873, 917, 936, 939, 940, 947,952, 958, 959, 1023, 1034, 1038, 1043, and 1044;

SEQ ID NOS: 783, 785, 882, 888, 922, and 925;

SEQ ID NOS: 707, 748, 752, 755, 756, 790, and 997;

SEQ ID NOS: 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, and 1084;

SEQ ID NOS: 163, 239, 331, 335, 368, 381, 385, 414, 425, 514, 572, 596, 603, 628, 638, 642, 672,674, 689, 744, 762, 809, 835, 885, 896, 919, 920, 938, 948, 972, 999, 1007, 1014, and 1027;

SEQ ID NOS: 164, 173, 176, 180, 182, 184, 185, 188, 190, 194,207, 210, 213, 214, 215, 217, 219, 220, 223, 226, 227, 229, 230, 234, 235, 240, 249, 255, 265, 270, 273, 274,

276, 277, 279, 281, 289, 291, 293, 294, 298, 302, 307, 311, 318, 319, 321, 330, 336, 339, 341, 342, 343, 348, 351, 356, 359, 361, 365, 366, 367, 368, 370, 372, 373, 374, 375, 376, 378, 379, 380, 382, 383, 384, 385, 388, 391, 392, 393, 398, 400, 401, 403, 408, 420, 423, 427, 428, 431, 434, 435, 438, 439, 440, 441, 447, 448, 450, 455, 458, 464, 465, 468, 471, 473, 474, 475, 478, 479, 481, 482, 484, 485, 492, 494, 499, 502, 508, 511, 512, 513, 515, 526, 532, 534, 541, 543, 545, 546, 550, 552, 553, 557, 558, 560, 563, 564, 568, 572, 576, 582, 583, 584, 585, 586, 588, 599, 600, 605, 606, 607, 608, 609, 610, 615, 620, 621, 631, 632, 636, 638, 640, 642, 645, 648, 650, 651, 652, 654, 656, 657, 661, 662, 664, 668, 679, 680, 686, 687, 689, 691, 696, 699, 700, 702, 706, 713, 720, 721, 723, 729, 734, 738, 745, 768, 772, 773, 775, 791, 798, 799, 823, 857, 898, 900, 901, 903, 914, 931, 933, 937, 941, 945, 948, 956, 965, 969, 983, 992, 993, 994, 999, 1003, 1005, 1009, 1010, 1011, 1019, 1028, 1035, 1037, 1052, 1061, 1062, and 1063

SEQ ID NOS: 157, 161, 163, 168, 197, 200, 205, 218, 221, 242, 250, 331, 334, 340, 412, 413, 414, 419, 425, 452, 453, 454, 456, 459, 462, 491, 591, 618, 622, 663, 665, 667, 670, 672, 690, 694, 695, 709, 759, 760, 761, 762, 767, 819, 820,822, 826, 832, 846, 847, 860, 872, 873, 877, 881, 887, 908, 911, 913, 917, 919, 921, 936, 939, 940, 942, 944, 947, 951, 952, 955, 958, 959, 960, 964, 975, 977, 979, 986, 1023, 1027, 1034, 1038, 1043, 1044, 1049, and 1051;

SEQ ID NOS: 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 332, 333, 334, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 382, 383, 384, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406,

407, 408, 409, 410, 411, 412, 413, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 597, 598, 599, 600, 601, 602, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 629, 630, 631, 632, 633, 634, 635, 636, 637, 639, 640, 641, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 673, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 939, 940, 941, 942, 943, 944, 945, 946, 947, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 1000, 1001, 1002, 1003, 1004, 1005,

1006, 1008, 1009, 1010, 1011, 1012, 1013, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, and 1064; and any and all combinations of the foregoing sets.

The polypeptide translation products of those polynucleotide sequences form sets of preferred olfactory receptor polypeptides, as well as any and all combinations of those polypeptide sets. The preferred sets of polypeptide translation products, and any and all combinations thereof, are also preferred sets for use as libraries of olfactory receptors for scent analysis.

*Scent Fingerprinting*

It will be appreciated that in many instances, analysis of a scent (whether in terms of receptor primary scent components, receptor quasi-primary scent components, receptor complex scent components, or other scent representations) is of great utility in and of itself, in addition to the utility of that analysis in scent re-creation. Thus, another embodiment of the invention encompasses "scent fingerprinting," which comprises analysis of a scent profile when re-creation of that scent may not be necessary or desirable. The distinction between scent profiling, as defined above, and scent fingerprinting, as defined here, is that scent profiling is a representation of a scent relative to a mammalian olfactory system in such a manner as to provide useful information about the interaction of the scent with that olfactory system, such as sufficient information to enable re-creation of the scent from receptor primary scent components. In contrast, scent fingerprinting can, but does not necessarily, provide such information.

Various applications and examples of scent fingerprinting can include, but are not limited to, the following illustrative situations. Natural gas is widely used as a heating and fuel supply, but is in itself odorless. Utility companies routinely add small amounts of odorants such as mercaptans to allow detection of natural gas leaks in households. Should a leak occur at an unattended site, however, potentially dangerous quantities of natural gas can accumulate. In such areas, a device which can recognize odorants would be useful.

Another use of scent fingerprinting is quality control of a manufacturing process. Many food items, such as freshly-baked bread and pastries, sauces, and cheeses, have distinct

odors. A manufacturer can record a scent fingerprint for a given food item, e.g. spaghetti sauce for packaging in jars. The quality of the product can then be monitored at various stages in manufacture and storage, and deviations from the established scent fingerprint can be used to alert the manufacturer to problems in manufacture or storage. Quality control scent fingerprints are not limited to food items, but can be used in any circumstance where a volatile component of an item of manufacture can be used as a quality control indicator, e.g., perfume, deodorants, solvent mixtures, etc.

While scent fingerprints need not be meaningful in terms of a mammalian olfactory system, it will be readily appreciated that a scent profile, which does represent a scent in a manner relevant to an olfactory system, is a special type of scent fingerprint. Additionally, the response of a device which yields a scent fingerprint of an odor (such as the "artificial nose" described in U.S. Pat. Nos. 5,571,401, 5,698,089, 5,788,833, 5,891,398 and 5,911,872) can be calibrated against the response of a mammalian olfactory system in order to transform the scent fingerprint generated by the device into a true scent profile which can be utilized to re-create an odor using receptor primary scent components, receptor quasi-primary scent components, or receptor complex scent components. The invention encompasses such data transformations.

*Scent Editing*

Representation of a scent as a scent profile provides the capability of editing the scent. A scent profile which represents a scent in terms of perceptive primary scent components is the most straightforward representation to edit. An example is the perceptive complex primary scent of "burned pizza" comprised of perceptive primary scent components of sausage, cheese, tomato sauce, and burned dough. In order to edit the scent to provide a more pleasant re-creation, the perceptive primary scent component of burned dough would simply be eliminated.

Other scent profiles can be edited using a knowledge of the perception of a particular components. Using our six-receptor example, suppose that the (1, 0, 0, 0, 1, 0) receptor complex scent component is known to provide an unpleasant aspect of the scent, while the (0, 1, 1, 1, 0, 1) component is known to provide the pleasant aspect of the scent. The first complex scent component can be omitted from the edited scent profile, leaving (0, 1, 1, 1, 0, 1) as the edited scent profile. (This would also alter the index values for scent re-creation, from 1 and 1, to 0 and 1.) More complex editing situations can be manipulated using computer algorithms as discussed above.

Individual scent components can be omitted, added, weakened, or intensified, and different scent components can be adjusted in different manners or degrees, depending on the desired result. The editing can be done interactively, with each edited scent emitted by the emitter module for evaluation by the user, or can be done automatically, with removal/weakening or addition/intensifying of particular components specified in advance, on either an absolute scale or relative to other components.

The following examples are presented to illustrate, but not to limit, the invention.

## EXAMPLES

### Example 1: Isolation of human olfactory receptor cDNAs

Total RNA was extracted from human olfactory epithelium and polyA$^+$ RNA was obtained by oligo-dT selection. This RNA served as template for cDNA synthesis using reagents from the SMART cDNA Library construction kit (Clontech K1051-1; Palo Alto, CA). The Superscript II$^{TM}$ reverse transcriptase (Life Technologies, Gaithersburg, MD) was used for first-strand synthesis.

Double-stranded cDNA was passed through a Chroma-Spin$^+$ STE-100 column (Clontech) to remove unreacted primers and cDNA fragments shorter that 100 nucleotides. The olfactory epithelial cDNA population was then subjected to amplification using primers homologous to conserved regions in GPCRs. The first primer set was homologous to transmembrane segment 2 (TM2) and the second set was homologous to TM 7.5. The TM2 primer set contained 32 oligonucleotides, representing all possible nucleotide sequences capable of encoding the TM2 amino acid sequence motif P-M-Y-F/L-F/Y-F/L, and designed to be non-degenerate at their 3' ends. Sequences of the TM2 primers are as follows:

| | |
|---|---|
| CCN ATG TAY TTN CTC CTA | SEQ ID NO: 74 |
| CCN ATG TAY TTN CTC CTC | SEQ ID NO: 75 |
| CCN ATG TAY TTN CTC CTG | SEQ ID NO: 76 |
| CCN ATG TAY TTN CTC CTT | SEQ ID NO: 77 |
| CCN ATG TAY TTN CTC TTA | SEQ ID NO: 78 |
| CCN ATG TAY TTN CTC TTC | SEQ ID NO: 79 |
| CCN ATG TAY TTN CTC TTG | SEQ ID NO: 80 |
| CCN ATG TAY TTN CTC TTT | SEQ ID NO: 81 |
| CCN ATG TAY TTN CTT CTA | SEQ ID NO: 82 |
| CCN ATG TAY TTN CTT CTC | SEQ ID NO: 83 |
| CCN ATG TAY TTN CTT CTG | SEQ ID NO: 84 |

| | |
|---|---|
| CCN ATG TAY TTN CTT CTT | SEQ ID NO: 85 |
| CCN ATG TAY TTN CTT TTA | SEQ ID NO: 86 |
| CCN ATG TAY TTN CTT TTC | SEQ ID NO: 87 |
| CCN ATG TAY TTN CTT TTG | SEQ ID NO: 88 |
| CCN ATG TAY TTN CTT TTT | SEQ ID NO: 89 |
| CCN ATG TAY TTN TTC CTA | SEQ ID NO: 90 |
| CCN ATG TAY TTN TTC CTC | SEQ ID NO: 91 |
| CCN ATG TAY TTN TTC CTG | SEQ ID NO: 92 |
| CCN ATG TAY TTN TTC CTT | SEQ ID NO: 93 |
| CCN ATG TAY TTN TTC TTA | SEQ ID NO: 94 |
| CCN ATG TAY TTN TTC TTC | SEQ ID NO: 95 |
| CCN ATG TAY TTN TTC TTG | SEQ ID NO: 96 |
| CCN ATG TAY TTN TTC TTT | SEQ ID NO: 97 |
| CCN ATG TAY TTN TTT CTA | SEQ ID NO: 98 |
| CCN ATG TAY TTN TTT CTC | SEQ ID NO: 99 |
| CCN ATG TAY TTN TTT CTG | SEQ ID NO: 100 |
| CCN ATG TAY TTN TTT CTT | SEQ ID NO: 101 |
| CCN ATG TAY TTN TTT TTA | SEQ ID NO: 102 |
| CCN ATG TAY TTN TTT TTC | SEQ ID NO: 103 |
| CCN ATG TAY TTN TTT TTG | SEQ ID NO: 104 |
| CCN ATG TAY TTN TTT TTT | SEQ ID NO: 105 |

The TM7.5 primer set was designed to contain the reverse complement of all sequences capable of encoding the TM7.5 amino acid sequence motif P-F/L/I/V-I/V-F/Y-S/T-L. The sequences of the TM7.5 primers are as follows:

| | |
|---|---|
| YYTNGTNYTNRYNCYGATANATNATNGGRTT | SEQ ID NO: 106 |
| YTRTTNCKNAGNWRTANATRAANGGRTT | SEQ ID NO: 107 |
| TCYTTRTTNCKNAGNGWRTANAYNASNGGRTT | SEQ ID NO: 108 |
| TCNTSRTTNCKNARNSARTANATNATNGGRTT | SEQ ID NO: 109 |
| RTTNCKNARNSWRTANATRAANGGRTT | SEQ ID NO: 110 |

Reagents and enzymes for amplification were from the Advantage cDNA amplification kit (Clontech). A primary amplification reaction was constructed as follows:

5 µl olfactory epithelial cDNA (10-20 µg/ml)

5 µl 10X PCR reaction buffer (Clontech)

1 µl TM2 primer set (10 µM)

1 µl TM7.5 primer set (10 µM)

1 µl dNTP mix (10 mM each dATP, dCTP, dGTP, dTTP)

36 µl PCR-grade $H_2O$

1 µl Advantage polymerase mix (Clontech)

Amplification was conducted in a PE 480 thermal cycler, using 28 cycles of 95°C for 15 sec, 45°C for 45 sec and 72°C for 2 min. After cycling, the amplification mixture was treated for 1 hour at 37°C with 10 Units of BspEI and 10 Units of PstI restriction enzymes, to degrade non-specific amplification products.

The primary amplification products were size-fractionated by agarose gel electrophoresis, and amplification products having a length between 600 and 800 base pairs were selected for secondary amplification.

The secondary amplification reaction was conducted identically to the primary amplification reaction, except that the size-selected primary amplification product was used as template. Secondary amplification reactions containing products which generated a specific gel band of between 600 and 800 base pairs were extracted once with phenol/chloroform and once with chloroform, and nucleic acids were precipitated from the reactions by addition of 0.1 volume of 3M NaOAc (pH 4.8), 20 μg glycogen, and 1.5 volumes of cold 95% ethanol. The precipitate was collected by centrifugation, dried and resuspended in 15 μl distilled water. After the precipitate dissolved, 3 μl loading dye was added, and the sample was subjected to electrophoresis on a 1.0% low-melting agarose gel containing ethidium bromide. Electrophoresis was conducted at 60V for approximately 40 min, with a 1 kb marker in adjoining lanes.

Following electrophoresis, the gel was illuminated with long-wavelength ultraviolet light, and the band was excised from the gel. The gel slice was placed in a 0.5 ml tube, and the tube was heated at 68°C for 15 min. The temperature of the tube was then equilibrated at 45°C. (This is conveniently accomplished in a thermal cycler.) AgarACE™ (Promega) was then added to the tubes, according to the manufacturer's instructions, and incubation at 45°C was continued for 15 min. As a general rule, 2 μl of enzyme per 50 μl of gel slice is adequate. Following AgarACE™ digestion, the digestion mixture was extracted with phenol/chloroform according to the manufacturer's instructions, and nucleic acids were precipitated by addition of 0.1 volume of 3M NaOAc (pH 4.8), 20 μg glycogen, and 1.5 volumes of cold 95% ethanol. The precipitate was collected by centrifugation, dried and resuspended in 5 μl distilled water.

Gel-purified amplification products were cloned using the TOPO XL PCR Cloning Kit (Invitrogen) according to the manufacturer's instructions. After cloning, individual

colonies were selected at random for nucleotide sequence analysis of the inserts, using procedures for sequence determination that are well-known to those of skill in the art.

**Example 2: Use of olfactory receptor polypeptides for screening**

Components of a scent are identified by determining the interaction between one or more potential odorant molecules and one or more OR polypeptides. For example, if a known original scent involves binding to a particular set of ORs, any subsequent set of molecules which bind to that same set of ORs and stimulate or inhibit the response of the ORs to the same extent as the original scent is capable of re-creating that original scent. If each of the subsequent set of molecules interacts with one and only one OR, then the set of molecules is composed of receptor primary scent components. In similar fashion, scents which involve binding of multiple ORs can be recreated by identifying a molecule, or combination of molecules, which binds to that particular set of ORs.

Binding of molecules to ORs is determined by a number of methods that are well-known in the art including, but not limited to, in vitro and in silico methods as described herein. Binding of molecules to ORs can also be determined or approximated by using quantitative structure-activity relationships as described herein.

**Example 3: Identification of agonists and antagonists of olfactory receptors**

Interaction of an odorant with a particular OR embedded in the membrane of an olfactory neuron will activate a signaling cascade within the neuron, ultimately resulting in the perception of a particular smell. A molecule, produced for example by combinatorial chemistry, which activates a similar or identical signaling cascade, will induce the perception of the same smell. Such a molecule would be considered a OR agonist. An OR agonist, once identified, can be used as a probe to identify additional agonists, as well as antagonists, of that particular OR.

Assays for the activation and the end product(s) of signaling cascades are known in the art. For example, direct $Ca^{++}$ imaging can be employed, using either dye -labeled $Ca^{++}$ or dyes that are sensitive to $Ca^{++}$ concentration. Such dyes, and techniques for their use, are available from, for example, Molecular Dynamics (Sunnyvale, CA) and Molecular Probes (Eugene, OR).

Because ORs are transmembrane proteins, identification of agonists and/or antagonists for a particular OR require that the OR is present either in a living cell or in a membrane preparation.

In one embodiment of a method for the determination of OR agonists or antagonists, a known OR agonist is labeled *in situ*, or is resynthesized with an attached label, and is bound to an OR. The effect of various test molecules on the binding of the labeled OR agonist is then determined. Labeling of an OR agonist is accomplished by any of a number of methods that are known to those of skill in the art including, but not limited to, various fluorescent labels (for example, chemical fluorochromes or green fluorescent protein). Binding of the OR agonist is measured by any of a number of competitive binding assays, as are known in the art. A test molecule that displaces the agonist from the OR (*i.e.*, reduces the binding of the agonist) is identified as a candidate agonist or antagonist of the particular OR. In a subsequent experiment, the candidate molecule is bound to the OR, and the effect on the signaling cascade induced by the original agonist is determined. A similar of higher level of activation is indicative of an agonist; while a reduced level of activation of the signaling cascade reflects the action of an antagonist.

In additional embodiments of the displacement assay, an unlabeled agonist is used, and its degree of binding is determined by mass spectrometry. *See*, for example, U.S. Patent No. 5,894,063; U.S. Patent No. 5,719,060; and Wei *et al.* (1999) *Nature* **399**:243-246.

In another embodiment, fluorescent microparticles ("beads"), which can be separated by flow cytometry, are used to identify OR agonists and antagonists. Such beads are available, for example, from Luminex (Austin, TX). Multiple different ORs are attached to the beads, wherein each distinct color of bead is associated with a particular OR. The collection of beads, containing different ORs, is exposed to a test molecule or a collection of test molecules, such as can be synthesized by combinatorial chemistry, and binding of the test molecule(s) is determined, for example, by use of a labeled ligand of the test molecule(s). The beads are sorted according to their color by flow cytometry. Correlation of test molecule binding with bead color allows the determination of test molecules capable of binding to the OR. Agonist or antagonist function of an OR binding molecule is determined by methods described *supra*.

**Example 4: Summary of search parameters for homology searches**

Step 1: (masking) rempolyatmask raw sequence on -NONE- [?] with remAT_moderate (15) . Continue to step 2.

Step 2: (masking) mask masked sequence from step 1 on RepBase [N] with mask_moderate (85) . Continue to step 3.

Step 3: (masking) mask masked sequence from step 2 on VecBase [N] with mask_moderate (85) . Continue to step 4.

Step 4: blastn masked sequence from step 3 on NR-Nuc [N] with blastn_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 5. Otherwise, stop.

Step 5: blastx masked sequence from step 3 on NR-Pro [P] with blastx_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 6. Otherwise, stop.

Step 6: blastn masked sequence from step 3 on GB_CurAwareness-Nuc [N] with blastn_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 7. Otherwise, stop.

Step 7: blastx masked sequence from step 3 on GB_CurAwareness-Pro [P] with blastx_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 8. Otherwise, stop.

Step 8: tblastx masked sequence from step 3 on NR-Nuc [N] with tblastx_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 9. Otherwise, stop.

Step 9: blastn masked sequence from step 3 on EST [N] with blastn_10_hits (V=10 B=10) . If the P/Z score is > 1.0E-50, or no hits are found go to step 10. Otherwise, stop.

Step 10: blastn masked sequence from step 3 on STS [N] with blastn_10_hits (V=10 B=10) . Stop.

**Example 5: Summary of search results**

| Step | Program | Database | Score | Sequences By Best Hit's Score | | | | | | No Hits | Run | Not Finished | Not Run |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | rempolyat mask | -NONE-[P] | P/Z/E | 0 | > 1.0 >= | 0 | >= 1.0 > | 0 | | 74 | 74 | 0 | 0 |
| 2 | mask | RepBase[N] | P/Z/E | 0 | > 1.0 >= | 0 | >= 1.0 > | 0 | | 74 | 74 | 0 | 0 |
| 3 | mask | VecBase[N] | P/Z/E | 0 | > 1.0 >= | 0 | >= 1.0 > | 0 | | 74 | 74 | 0 | 0 |
| 4 | blastn | NR-Nuc[N] | P/Z/E | 46 | < 1.0E-20 <= | 28 | | | | 0 | 74 | 0 | 0 |
| 5 | blastx | NR-Pro[P] | P/Z/E | 16 | < 1.0E-20 <= | 34 | | | | 0 | 50 | 0 | 24 |
| 6 | blastn | GB_CurAwareness-Nuc[N] | P/Z/E | 17 | < 1.0E-20 <= | 31 | | | | 0 | 48 | 0 | 26 |
| 7 | blastx | GB_CurAwareness-Pro[P] | P/Z/E | 13 | < 1.0E-20 <= | 28 | | | | 2 | 43 | 0 | 31 |
| 8 | tblastx | NR-Nuc[N] | P/Z/E | 14 | < 1.0E-20 <= | 29 | | | | 0 | 43 | 0 | 31 |
| 9 | blastn | EST[N] | P/Z/E | 10 | < 1.0E-20 <= | 33 | | | | 0 | 43 | 0 | 31 |
| 10 | blastn | STS[N] | P/Z/E | 5 | < 1.0E-20 <= | 33 | | | | 0 | 38 | | |

**Example 6. Datamining and analysis from GenBank**

*Datamining.* A datamining pipeline was built to detect all available OR-like sequences in the public databases and to update the results as new database versions are released. tblastn (Altschul et al., 1997) was used to compare amino acid query sequences to the non-redundant version of GenBank (partitions nt, htg and est_human, all updated to August 6th, 2000), with a non-stringent expectation value cutoff of 1e-4. The queries used included 96 curated OR sequences representing all known families (SEQ ID NO:2651 through SEQ ID NO:2747) and 249 additional HORDE entries (SEQ ID NO:2402 through SEQ ID NO:2650). In a second round 105 newly mined mouse genes (SEQ ID NO:2296 through SEQ ID NO:2401) and 344 newly mined human genes (SEQ ID NO:2009 through SEQ ID NO:2295) were used as additional queries (all datasets are available

electronically). All resulting database entries were catalogued by species and subdivided into four types: mRNA, EST, DNA and genomic, the latter including entries annotated with keyword HTGS_PHASE1-3, or with length at least 10 kb. Low-pass genomic sampling sequences were ignored (keyword HTGS_PHASE0). In addition, a set of 132 olfactory sequence tag (OST) sequences was used . All sequences used were split into contigs according to annotation or, where unavailable, according to runs of at least 50 Ns. All resulting contigs were analyzed for interspersed repeats using RepeatMasker (Smit and Green, 1997). Subcontigs were defined as segments between interspersed repeats, ignoring simple repeats and low-complexity regions.

*Localization of genomic clones.* The University of Santa Cruz (UCSC) Working Draft Sequence ("golden path", http://genome.ucsc.edu) presents a first tentative assembly of the finished and draft human genomic sequence based on the WUSTL clone map (http://genome.wustl.edu/gsc). The "golden path" data was used to assign a coordinate to each finished or unfinished genomic clone, in Mb from the p telomere. In parallel, the Unified DataBase (UDB) was used to assign similar Mb coordinates to the clones, based on their marker contents (Chalifa-Caspi et al., 1998). The two maps are largely colinear, and were integrated based on the coordinates of clones that could be localized in both. Clones for which no coordinate could be obtained by either method were assigned a chromosome according to UDB, by sequence similarity to another mapped clone, by annotation, or by e-PCR (Schuler, 1997).

*Detection of OR sequences.* Each subcontig was compared using FASTY (Pearson et al., 1997) to a curated set of OR protein sequences from several species, yielding a conceptual translation product. The possibility of a pseudogene being disrupted by the insertion of interspersed repeats was taken into account, with the two or more resulting parts being therefore located in different subcontigs. Such compatible candidate sequences were automatically joined into a combined reconstructed pseudogene. Whenever possible, all resulting sequences were trimmed or extended to use a suitable ATG codon for initiation and to end at a stop codon, but avoiding those stop codons that yield products shorter than 275 amino acids. The sequences were finally split into OR or non-OR by comparing them to previously recognized OR sequences and to a non-redundant database of non-OR GPCRs which we extracted from Swiss-Prot. To be automatically classified as an OR, a

new sequence has to be at least 40% identical over at least 100 amino acids to another OR. A more stringent cutoff (50%) was required for shorter sequences.

*Definition of OR genes.* A given gene could be represented in more than one overlapping genomic clone. Such redundancy was removed by considering two sequences as representing the same gene, if they are in the same chromosome, located in clones less than 300 kb apart and at least 99% identical at the nucleotide level. An exception to this rule is when two genes coappear in the same clone, in which case they were considered to be distinct genes. Sequences localized to a chromosome but without a coordinate were only compared to other sequences within that chromosome, and finally those sequences lacking a chromosomal assignment were compared to the rest, applying only the criterion of sequence similarity. For each resulting gene with more than one constituent sequence, a consensus nucleotide sequence was created after multiple alignment by ClustalW (Higgins et al., 1996) using the fast comparison parameter. This was followed by conceptual translation and end trimming to suitable start and stop codons, as above. Genes with length at least 275 amino acids without frame disruptions (frameshifts, in-frame stop codons or disrupting interspersed repeats) were considered to be full-length and apparently intact. For partial sequences without frame disruptions no statement could be made on their apparent functionality, except when the partial sequences were observed in the genome as such, in which case they were considered to be pseudogenes. Finally, each OR gene was assigned a family and subfamily by amino acid sequence similarity to previously classified OR genes.

The references cited in this example are: Altschul, S. F., Madden, T. L., Schaffer, A. A., Zhang, J., Zhang, Z., Miller, W. and Lipman, D. J. (1997) Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. Nucleic Acids Res 25: 3389-402; Chalifa-Caspi, V., Prilusky, J. and Lancet, D. (1998) The Unified Database. Weizmann Institute of Science, Bioinformatics Unit and Genome Center (Rehovot, Israel). World Wide Web URL: bioinformatics.weizmann.ac.il/udb; Higgins, D. G., Thompson, J. D. and Gibson, T. J. (1996) Using CLUSTAL for multiple sequence alignments. Methods Enzymol 266: 383-402; Pearson, W. R., Wood, T., Zhang, Z. and Miller, W. (1997) Comparison of DNA sequences with protein sequences. Genomics 46: 24-36; Schuler, G. D. (1997) Sequence mapping by electronic PCR. Genome Res 7: 541 50; and Smit, A. F.

A. and Green, P. (1997) RepeatMasker at URL: repeatmasker.genome.washington.edu/cgi-bin/RM2_req.pl.

Tables 1 and 2 contain additional information regarding SEQ ID NO. 153 to SEQ ID NO. 1085. The explanation of the entries in Tables 1 and 2 is as follows:

Symbol: The Human Genome Organization gene symbol, as allotted by a procedure to be published soon. OR = Olfactory Receptor, numeral to the immediate right - family designation, capital letters - subfamily designation, rightmost numeral - individual gene within subfamily, n appearing when such number is not assigned yet; P = Pseudogene.

All ORs within a family share at least 40% protein sequence identity.

All ORs within a subfamily share at least 60% protein sequence identity.

HORDE: The H serial number within the Human Olfactory Receptor Data Exploratorium (URL bioinfo.weizmann.ac.il/HORDE). The numeral 38 represents the HORDE build (version), gxxx is the individual gene number.

Digi: Appearance of a DSnn serial number here means that the sequence has been PCR-amplified from human olfactory epithelial cDNA using degenerate primers at the transmembrane helix 2 and transmembrane helix 7. See separate page for explanations on the analysis of the DS entries.

OST: OSTnnn is the serial number of the sequence in the Olfactory Sequence Tag collection in the Lancet laboratory (URL bioinfo.weizmann.ac.il/HORDE). Appearance here means that the sequence has been PCR-amplified from human genomic DNA using degenerate primers at the transmembrane helix 2 and transmembrane helix 7. There are a total of 112 OST sequences.

Trivial name: One or more aliases given to the same gene by different laboratories. Many of the trivial names are of the form ORnn-xx, whereby nn is a chromosome number and xx is an arbitrary numerical identifier.

Tran: (transcribed) Plus appears if the entry was sequenced from cDNA, or was found in the Expressed Sequence Tags (EST) databases. Plus also appears if in the public databases the gene was annotated as mRNA.

Int.: (intact) "Yes" indicates that the gene may be intact, as there are no obvious sequence frame disruptions. "Put" (putative) indicates the same, except that the known sequence is short, hence there may be disruptions in the unsequenced segments. “Pol”

indicates a polymorphism between intact and pseudogenic alleles. When no word appears, this indicates a pseudogene.

E: (Extent) FL indicates that the Full Length sequence is known (typically 310 ± 30 amino acids).

D: The number of sequence disruptions in the known sequence of a pseudogene.

C: The human chromosomal location of the OR gene, assigned as described under Mb coord.

Mb coord: The location of the OR gene within a human chromosome, in magabase units, beginning at the p-telomere and ending at the q-telomere, computed based on integrating information from Unified Database (URL is bioinfo.weizmann.ac.il/udb) and the University of California Santa Cruz (URL is genome.ucsc.edu).

CDR: The 17 amino acids suggested to line the odorant ligand binding pocket, delineated by the extracellular 2/3 of transmembrane helices 3,4 and 5. The assignment is based on an algorithm at URL bioinformatics.weizman.ac.il/HORDE/humanGenes/CDR.html.

%: (% id) The percent protein identity between the human sequence in the current line and the known rodent (rat or mouse) OR sequence to which it bears the highest similarity.

S: (Species) Rat (R)or mouse (M).

Acc: The Genbank accession number of the clone that contains the rodent sequence.

Range: The positions x ... y of the first and last bases within the rodent which constitute the OR coding region. If x>y then the OR is on the reverse strand.

**Table 1**

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 153 | OR10D3 | H38g001 | | | HSHTPCRX09 | | | |
| 154 | OR7EnP | H38g002 | | | | | | FL |
| 155 | OR1D5 | H38g003 | | OST901 | OR17-31 | + | pol | FL |
| 156 | OR10NnP | H38g00 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 4 | | | | | | |
| 157 | OR2F1 | H38g005 | | OST902 | OLF3;OR7-139;OR7-140 | + | yes | FL |
| 158 | OR7EnP | H38g006 | | | | | | FL |
| 159 | OR8FnP | H38g007 | | | | | | FL |
| 160 | OR2Q1P | H38g008 | | | DJ0669B10;OR7-2 | | | FL |
| 161 | OR2W1 | H38g009 | | | AL035402-B;dJ88J8.1;hs6M1-15 | | yes | FL |
| 162 | OR7EnP | H38g010 | | | | + | | FL |
| 163 | OR6B1 | H38g011 | DS119 | | OR7-3;WUGSC:H_DJ0669B10.3 | + | yes | FL |
| 164 | OR10Kn | H38g012 | | | | | yes | FL |
| 165 | ORnP | H38g013 | | | | + | | FL |
| 166 | OR4F2P | H38g014 | | | HS191N21;dJ191N21.4;hs6M1-11 | | | FL |
| 167 | OR7EnP | H38g015 | | | | | | FL |
| 168 | OR1F2P | H38g016 | | | OLFMF2 | + | yes | FL |
| 169 | OR2P1P | H38g017 | | | AL035402-A;dJ88J8.2;hs6M1-26 | | | |
| 170 | OR7E43P | H38g018 | | OST903 | OR4-116 | | | FL |
| 171 | OR4F1 | H38g019 | | | HSDJ0609N19 | | | FL |
| 172 | OR7E55P | H38g020 | | OST904 | OR2DG;OR3.2 | | | FL |
| 173 | OR13Dn | H38g021 | | | | | yes | FL |
| 174 | OR4CnP | H38g022 | | | | | | FL |
| 175 | OR10D1P | H38g023 | | OST074 | HSHTPCRX03 | + | | FL |
| 176 | OR4Cn | H38g02 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 4 | | | | | | |
| 177 | OR8GnP | H38g025 | | | | | | |
| 178 | OR13CnP | H38g026 | | | | | | FL |
| 179 | OR4CnP | H38g027 | | | | | | FL |
| 180 | OR13Cn | H38g028 | | | | | yes | FL |
| 181 | OR4CnP | H38g029 | | | | | | |
| 182 | OR51Bn | H38g030 | | | | | yes | FL |
| 183 | OR7E5P | H38g031 | | OST905 | OR11-12 | | | FL |
| 184 | OR13Cn | H38g032 | | | | | yes | FL |
| 185 | OR4Sn | H38g033 | | | | | yes | FL |
| 186 | OR51BnP | H38g034 | | | | | | FL |
| 187 | OR6JnP | H38g035 | | | | | | FL |
| 188 | OR51Bn | H38g036 | | | | | yes | FL |
| 189 | OR7EnP | H38g037 | | | | | | FL |
| 190 | OR2An | H38g038 | | | | | yes | FL |
| 191 | OR7E22P | H38g039 | | | OR3.6;OR6DG | | | FL |
| 192 | OR7E4P | H38g040 | | | OR11-11a | | | FL |
| 193 | OR7E66P | H38g041 | | OST906 | OR3.3;OR3DG;hg630 | | | FL |
| 194 | OR6Mn | H38g042 | | | | | yes | FL |
| 195 | OR2ALnP | H38g043 | | | | | | |
| 196 | OR6MnP | H38g044 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 197 | OR4D1 | H38g045 | | | AC005962-A;HSTPCR16 | + | yes | FL |
| 198 | OR5D2P | H38g046 | | OST907 | OR11-7a;OR912-91 | | | FL |
| 199 | OR7E38P | H38g047 | | OST127 | AC004967 | + | | FL |
| 200 | OR4D2 | H38g048 | | | AC005962-B | | yes | FL |
| 201 | OR7E7P | H38g049 | | | AC004967-A | | | FL |
| 202 | OR5AHnP | H38g050 | | | | | | |
| 203 | OR2U2P | H38g051 | | | AL050339-B;dJ974I11.2;hs6M1-23 | | | FL |
| 204 | OR2U1P | H38g052 | | | 974I11;AL050339-C;dJ974I11.3;hs6M1-24 | | | FL |
| 205 | OR2H2 | H38g053 | | | AC006137-A;dJ271M21.2;hs6M1-12 | | yes | FL |
| 206 | OR2H5P | H38g054 | | OST616 | HS271M21;hs6M1-13 | | | FL |
| 207 | OR2In | H38g055 | | | | + | yes | FL |
| 208 | OR11HnP | H38g056 | | | | | | FL |
| 209 | OR7EnP | H38g057 | | | | + | | |
| 210 | OR9In | H38g058 | | | | | yes | FL |
| 211 | OR2AFnP | H38g059 | | | | | | FL |
| 212 | OR13KnP | H38g061 | | | | | | FL |
| 213 | OR13Cn | H38g062 | | | | | yes | FL |
| 214 | OR13Fn | H38g063 | | | | | yes | FL |
| 215 | OR9Qn | H38g064 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 216 | OR2TnP | H38g065 | | | | | | FL |
| 217 | OR4Kn | H38g066 | | | | | yes | FL |
| 218 | OR2B8P | H38g067 | | | dJ313I6.4;hs6M1-29P | | yes | FL |
| 219 | OR2Tn | H38g068 | | | | | yes | FL |
| 220 | OR4Kn | H38g069 | | | | | yes | FL |
| 221 | OR2A4 | H38g070 | | | WUGSC:H_DJ0988G15.2 | + | yes | FL |
| 222 | OR7EnP | H38g071 | | | | | | FL |
| 223 | OR4Kn | H38g072 | | | | | yes | FL |
| 224 | OR13InP | H38g073 | | | | | | FL |
| 225 | OR7EnP | H38g074 | | | | | | FL |
| 226 | OR6Jn | H38g075 | | | | | yes | FL |
| 227 | OR4Mn | H38g076 | | | | | yes | FL |
| 228 | OR4VnP | H38g077 | | | | | | FL |
| 229 | OR6Xn | H38g078 | | | | | yes | FL |
| 230 | OR51Gn | H38g079 | | | | | yes | FL |
| 231 | OR6EnP | H38g080 | | | | | | FL |
| 232 | OR4NnP | H38g081 | | | | | | FL |
| 233 | OR6MnP | H38g082 | | | | | | FL |
| 234 | OR4Nn | H38g083 | | | | | yes | FL |
| 235 | OR4Cn | H38g084 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 236 | OR4KnP | H38g085 | | | | | | FL |
| 237 | ORnP | H38g086 | | | | | | |
| 238 | OR5D3 | H38g087 | | OST908 | OR11-8b;OR11-8c | | | |
| 239 | OR2G1P | H38g088 | DS13;DS16 | OST619 | dJ974I11.4;hs6M1-25 | + | | FL |
| 240 | OR4Kn | H38g089 | | | | | yes | FL |
| 241 | OR8BnP | H38g090 | | | | | | FL |
| 242 | OR2B2 | H38g091 | | | OR6-1;dJ193B12.4 | | yes | FL |
| 243 | OR7EnP | H38g092 | | | | | | FL |
| 244 | OR4KnP | H38g093 | | | | | | FL |
| 245 | OR2AD1P | H38g094 | | | dJ25J6.1;hs6M1-8P | | | FL |
| 246 | OR1AAnP | H38g095 | | | | | | FL |
| 247 | OR1E3P | H38g096 | | | OR17-210 | | | FL |
| 248 | OR8BnP | H38g097 | | | | | | FL |
| 249 | OR5Hn | H38g098 | | | | | yes | FL |
| 250 | OR1G1 | H38g099 | | OST909 | OR17-130;OR17-209 | + | yes | FL |
| 251 | OR5HnP | H38g100 | | | | | | FL |
| 252 | ORnP | H38g101 | | | | | | |
| 253 | ORnP | H38g102 | | | | | | |
| 254 | OR4PnP | H38g103 | | | | | | FL |
| 255 | OR13Hn | H38g104 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 256 | OR7D1P | H38g105 | | OST910 | CIT-B-440L2;OR19-131;OR19-A | | | FL |
| 257 | OR4KnP | H38g106 | | | | | | FL |
| 258 | OR7E24 | H38g107 | | OST911 | CIT-B-440L2;OR19-8 | + | | FL |
| 259 | OR51NnP | H38g108 | | | | | | FL |
| 260 | OR7E18P | H38g109 | | OST912 | OR19-14;TPCR26 | + | | FL |
| 261 | OR7E19P | H38g110 | | OST913 | HSCIT-B-440L2;OR19-7;TPCR110 | + | | FL |
| 262 | OR7E41P | H38g111 | | OST914 | OR11-20;hg84 | | | FL |
| 263 | OR2R1 | H38g112 | | OST058 | | | | FL |
| 264 | OR10ACnP | H38g113 | | | | | | FL |
| 265 | OR51Ln | H38g114 | | | | | yes | FL |
| 266 | OR52JnP | H38g115 | | | | | | FL |
| 267 | OR9LnP | H38g116 | | | | | | |
| 268 | OR51PnP | H38g117 | | | | | | FL |
| 269 | OR5HnP | H38g118 | | | | | | FL |
| 270 | OR51An | H38g119 | | | | | yes | FL |
| 271 | OR5HnP | H38g120 | | | | | | FL |
| 272 | ORnP | H38g121 | | | | | | |
| 273 | OR52En | H38g122 | | | | | yes | FL |
| 274 | OR5Hn | H38g123 | | | | | yes | FL |
| 275 | OR4CnP | H38g124 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 276 | OR52En | H38g125 | | | | | yes | FL |
| 277 | OR10Dn | H38g126 | | | | | yes | FL |
| 278 | OR5HnP | H38g127 | | | | | | FL |
| 279 | OR13An | H38g128 | | | | | yes | FL |
| 280 | OR5HnP | H38g129 | | | | | | FL |
| 281 | OR5Kn | H38g130 | | | | | yes | FL |
| 282 | OR7EnP | H38g131 | | | | | | FL |
| 283 | OR4DnP | H38g132 | | | | | | FL |
| 284 | OR2ARnP | H38g133 | | | | | | |
| 285 | OR7E29P | H38g134 | | OST032 | | | | FL |
| 286 | OR4CnP | H38g135 | | | | | | FL |
| 287 | OR5PnP | H38g136 | | | | | | FL |
| 288 | OR7EnP | H38g137 | | | | | | FL |
| 289 | OR56An | H38g138 | | | | | yes | FL |
| 290 | OR56AnP | H38g139 | | | | | | |
| 291 | OR5Pn | H38g140 | | | | | yes | FL |
| 292 | OR7E53P | H38g141 | | OST915 | OR3-142;OR3-143 | | | FL |
| 293 | OR5Pn | H38g142 | | | | | yes | FL |
| 294 | OR52Ln | H38g143 | | | | | yes | FL |
| 295 | OR5E1 | H38g144 | | | HSTPCR24 | + | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 296 | OR56AnP | H38g145 | | | | | | |
| 297 | OR4KnP | H38g146 | | | | | | |
| 298 | OR52Ln | H38g147 | | | | | yes | FL |
| 299 | OR7EnP | H38g148 | | | | | | |
| 300 | OR52XnP | H38g149 | | | | | | FL |
| 301 | ORnP | H38g150 | | | | | | |
| 302 | OR56An | H38g151 | | | | | yes | FL |
| 303 | OR56AnP | H38g152 | | | | | | |
| 304 | OR1R1P | H38g153 | | | OR17-1 | | | FL |
| 305 | OR52EnP | H38g154 | | | | | | FL |
| 306 | OR51AnP | H38g155 | | | | | | FL |
| 307 | OR51An | H38g156 | | | | | yes | FL |
| 308 | OR4CnP | H38g157 | | | | | | FL |
| 309 | OR52JnP | H38g158 | | | | | | FL |
| 310 | OR4RnP | H38g159 | | | | | | |
| 311 | OR52Jn | H38g160 | | | | | yes | FL |
| 312 | OR4CnP | H38g161 | | | | | | FL |
| 313 | OR51AnP | H38g162 | | | | | | FL |
| 314 | OR7EnP | H38g163 | | | | | | FL |
| 315 | OR5MnP | H38g164 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 316 | OR10ABnP | H38g165 | | | | | | FL |
| 317 | OR52SnP | H38g166 | | | | | | FL |
| 318 | OR5Mn | H38g167 | | | | | yes | FL |
| 319 | OR10Sn | H38g168 | | | | | yes | FL |
| 320 | OR5MnP | H38g169 | | | | | | FL |
| 321 | OR10Gn | H38g170 | | | | | yes | FL |
| 322 | ORnP | H38g171 | | | | | | FL |
| 323 | OR5MnP | H38g172 | | | | | | FL |
| 324 | OR10GnP | H38g173 | | | | | | |
| 325 | OR10TnP | H38g174 | | | | | | FL |
| 326 | ORnP | H38g175 | | | | | | |
| 327 | OR10RnP | H38g176 | | | | | | FL |
| 328 | OR5MnP | H38g177 | | | | | | FL |
| 329 | OR7EnP | H38g178 | | | | | | FL |
| 330 | OR10Tn | H38g179 | | | | | yes | FL |
| 331 | OR1E1 | H38g180 | DS37;DS43;DS46 | OST916 | HGMP07I;OR17-2;OR17-32 | + | yes | FL |
| 332 | OR5BKnP | H38g181 | | | | | | |
| 333 | OR5MnP | H38g182 | | | | | | FL |
| 334 | OR3A3 | H38g183 | | OST917 | OR17-137;OR17-16;OR17-201 | + | yes | FL |
| 335 | OR10ADnP | H38g184 | DS10 | | | + | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 336 | OR10Rn | H38g185 | | | | + | yes | FL |
| 337 | OR5TnP | H38g186 | | | | | | FL |
| 338 | OR4GnP | H38g187 | | | | | | FL |
| 339 | OR6Yn | H38g188 | | | | | yes | FL |
| 340 | OR1E2 | H38g189 | | OST918 | OR17-135;OR17-93 | + | yes | FL |
| 341 | OR8Hn | H38g190 | | | | | yes | FL |
| 342 | OR4Fn | H38g191 | | | | | yes | FL |
| 343 | OR10Kn | H38g192 | | | | | yes | FL |
| 344 | OR7LnP | H38g193 | | | | | | |
| 345 | OR8InP | H38g194 | | | | | | FL |
| 346 | OR10RnP | H38g195 | | | | | | |
| 347 | OR2AFnP | H38g196 | | | | | | FL |
| 348 | OR8Kn | H38g197 | | | | | yes | FL |
| 349 | ORnP | H38g198 | | | | | | |
| 350 | OR8KnP | H38g199 | | | | | | FL |
| 351 | OR51Hn | H38g200 | | | | | yes | FL |
| 352 | OR7EnP | H38g201 | | | | | | FL |
| 353 | ORnP | H38g202 | | | | | | |
| 354 | OR5BMnP | H38g203 | | | | | | FL |
| 355 | OR10GnP | H38g204 | | | | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 356 | OR2Yn | H38g205 | | | | | yes | FL |
| 357 | OR10DnP | H38g206 | | | | | | FL |
| 358 | OR3BnP | H38g207 | | | | | | FL |
| 359 | OR8Dn | H38g208 | | | | | yes | FL |
| 360 | OR5RnP | H38g209 | | | | | | |
| 361 | OR10Gn | H38g210 | | | | | yes | FL |
| 362 | OR5BDnP | H38g211 | | | | | | FL |
| 363 | OR5ALnP | H38g212 | | | | | | FL |
| 364 | OR52HnP | H38g213 | | | | | | |
| 365 | OR10Gn | H38g214 | | | | | yes | FL |
| 366 | OR5Mn | H38g215 | | | | | yes | FL |
| 367 | OR51Mn | H38g216 | | | | | yes | FL |
| 368 | OR6Tn | H38g217 | DS15;DS146;DS147 | | | + | yes | FL |
| 369 | OR6DnP | H38g218 | | | | | | FL |
| 370 | OR4B1 | H38g219 | | OST208 | | | yes | FL |
| 371 | OR5ALnP | H38g220 | | | | | | FL |
| 372 | OR51Qn | H38g221 | | | | | yes | FL |
| 373 | OR4Dn | H38g222 | | | | | yes | FL |
| 374 | OR52Nn | H38g223 | | | | | yes | FL |
| 375 | OR4Xn | H38g224 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 376 | OR8Jn | H38g225 | | | | | yes | FL |
| 377 | OR51JnP | H38g226 | | | | | | FL |
| 378 | OR10Gn | H38g227 | | | | | yes | FL |
| 379 | OR52En | H38g228 | | | | | yes | FL |
| 380 | OR4Xn | H38g229 | | | | | yes | FL |
| 381 | OR10A2 | H38g230 | DS5;DS53;DS56 | OST363 | | + | | FL |
| 382 | OR5Mn | H38g231 | | | | | yes | FL |
| 383 | OR52En | H38g232 | | | | | yes | FL |
| 384 | OR8Kn | H38g233 | | | | | yes | FL |
| 385 | OR10An | H38g234 | DS55 | | | + | yes | FL |
| 386 | OR8LnP | H38g235 | | | | | | FL |
| 387 | OR5BPnP | H38g236 | | | | | | |
| 388 | OR52Nn | H38g237 | | | | | yes | FL |
| 389 | ORnP | H38g238 | | | | | | |
| 390 | OR8JnP | H38g239 | | | | | | FL |
| 391 | OR5Mn | H38g240 | | | | | yes | FL |
| 392 | OR52En | H38g241 | | | | | yes | FL |
| 393 | OR5Tn | H38g242 | | | | | yes | FL |
| 394 | OR52NnP | H38g243 | | | | | | FL |
| 395 | OR4B2P | H38g244 | | OST919 | hg449 | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 396 | OR51KnP | H38g245 | | | | | | FL |
| 397 | OR52QnP | H38g246 | | | | | | FL |
| 398 | OR4Fn | H38g247 | | | | | yes | FL |
| 399 | OR11MnP | H38g248 | | | | | | |
| 400 | OR52Nn | H38g249 | | | | | yes | FL |
| 401 | OR56An | H38g250 | | | | | yes | FL |
| 402 | OR5AWnP | H38g251 | | | | | | FL |
| 403 | OR52Nn | H38g252 | | | | | yes | FL |
| 404 | ORnP | H38g253 | | | | | | |
| 405 | OR52EnP | H38g254 | | | | | | FL |
| 406 | OR5BHnP | H38g255 | | | | | | FL |
| 407 | OR4QnP | H38g256 | | | | | | FL |
| 408 | OR51En | H38g257 | | | | | yes | FL |
| 409 | OR11KnP | H38g258 | | | | | | FL |
| 410 | OR12D1P | H38g259 | | | AC004174-B;dJ994E9.7;hs6M1-19 | | | FL |
| 411 | OR4NnP | H38g260 | | | | + | | FL |
| 412 | OR11A1 | H38g261 | | | AC004174-A;dJ994E9.6;hs6M1-18 | + | yes | FL |
| 413 | OR10C1 | H38g262 | | | AC004174;dJ994E9.5;hs6M1-17 | + | yes | FL |
| 414 | OR2H1 | H38g263 | DS114 | | OLFR42A-9004-14;OR6-2;dJ994E9.4;hs6M1-16 | + | yes | FL |
| 415 | OR9RnP | H38g264 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 416 | OR4FnP | H38g265 | | | | | | |
| 417 | OR7D4 | H38g266 | | OST920 | OR19-B;hg105 | | | FL |
| 418 | OR7E25P | H38g267 | | OST921 | CIT-B-440L2;OR19-C | | | FL |
| 419 | OR2D2 | H38g268 | | | OR11-610 | | yes | FL |
| 420 | OR10An | H38g269 | | | | | yes | FL |
| 421 | OR2WnP | H38g270 | | | | + | | |
| 422 | OR7E16P | H38g271 | | OST922 | CIT-B-440L2;OR19-133;OR19-9 | | | FL |
| 423 | OR52Pn | H38g272 | | | | | yes | FL |
| 424 | OR6AnP | H38g273 | | | | | | FL |
| 425 | OR7D2 | H38g274 | DS70;DS73 | OST923 | HTPCRH03;OR19-4 | + | yes | FL |
| 426 | OR52UnP | H38g275 | | | | | | FL |
| 427 | OR2AGn | H38g276 | | | | | yes | FL |
| 428 | OR7G3 | H38g277 | | OST085 | | | yes | FL |
| 429 | OR56BnP | H38g278 | | | | | | FL |
| 430 | OR2AGnP | H38g279 | | | | | | FL |
| 431 | OR56Bn | H38g280 | | | | | yes | FL |
| 432 | OR6AnP | H38g281 | | | | | | FL |
| 433 | OR4FnP | H38g282 | | | | | | FL |
| 434 | OR6Wn | H38g283 | | | | | yes | FL |
| 435 | OR4Mn | H38g284 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 436 | OR52YnP | H38g285 | | | | | | |
| 437 | OR11HnP | H38g286 | | | | | | FL |
| 438 | OR9An | H38g287 | | | | | yes | FL |
| 439 | OR5Mn | H38g288 | | | | | yes | FL |
| 440 | OR6Vn | H38g289 | | | | | yes | FL |
| 441 | OR4Nn | H38g290 | | | | + | yes | FL |
| 442 | OR51AnP | H38g291 | | | | | | FL |
| 443 | OR9PnP | H38g292 | | | | | | |
| 444 | OR4H6P | H38g293 | | | OR15-71;OR15-82 | | | FL |
| 445 | OR51FnP | H38g294 | | | | | | FL |
| 446 | OR7E1P | H38g295 | | | AC004923 | | | FL |
| 447 | OR51Tn | H38g296 | | | | | yes | FL |
| 448 | OR2Vn | H38g297 | | | | | yes | FL |
| 449 | OR51HnP | H38g298 | | | | | | FL |
| 450 | OR51An | H38g299 | | | | | yes | FL |
| 451 | OR2AInP | H38g300 | | | | | | FL |
| 452 | OR2F2 | H38g301 | | | OR7-1;WUGSC:H_DJ0669B10.1 | | yes | FL |
| 453 | OR1F12 | H38g302 | | | dJ313I6.5;hs6M1-35P | | yes | FL |
| 454 | OR7G1P | H38g303 | | | OR19-15 | | yes | FL |
| 455 | OR7G2 | H38g304 | | OST260 | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 456 | OR1M1 | H38g305 | | OST924 | OR19-6 | | yes | FL |
| 457 | OR51UnP | H38g306 | | | | | | |
| 458 | OR52Hn | H38g307 | | | | | yes | FL |
| 459 | OR1F1 | H38g308 | | OST925 | OLFMF;OR16-36;OR16-37;OR16-88;OR16-89;OR16-90 | + | yes | FL |
| 460 | OR10PnP | H38g309 | | | | | | |
| 461 | OR4FnP | H38g310 | | | | | | FL |
| 462 | OR2T1 | H38g311 | | | OR1-25 | | yes | FL |
| 463 | OR7EnP | H38g312 | | | | | | FL |
| 464 | OR51Gn | H38g313 | | | | | yes | FL |
| 465 | OR2Tn | H38g314 | | | | | yes | FL |
| 466 | OR5BGnP | H38g315 | | | | | | |
| 467 | OR5WnP | H38g316 | | | | | | FL |
| 468 | OR51Sn | H38g317 | | | | | yes | FL |
| 469 | OR5WnP | H38g318 | | | | | | |
| 470 | OR51AnP | H38g319 | | | | | | FL |
| 471 | OR5Dn | H38g320 | | | | | yes | FL |
| 472 | OR7EnP | H38g321 | | | | | | FL |
| 473 | OR51Fn | H38g322 | | | | | yes | FL |
| 474 | OR5Dn | H38g323 | | | | | yes | FL |
| 475 | OR52Rn | H38g324 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 476 | ORnP | H38g32 5 | | | | | | FL |
| 477 | OR7EnP | H38g32 6 | | | | | | FL |
| 478 | OR6Qn | H38g32 7 | | | | | yes | FL |
| 479 | OR4Fn | H38g32 8 | | | | | yes | FL |
| 480 | OR7EnP | H38g32 9 | | | | | | |
| 481 | OR7En | H38g33 0 | | | | | yes | FL |
| 482 | OR4Nn | H38g33 1 | | | | | yes | FL |
| 483 | OR2ASnP | H38g33 2 | | | | | | |
| 484 | OR11Hn | H38g33 3 | | | | | yes | FL |
| 485 | OR2Tn | H38g33 4 | | | | | yes | FL |
| 486 | OR2TnP | H38g33 5 | | | | | | |
| 487 | OR2AKnP | H38g33 6 | | | | | | FL |
| 488 | ORnP | H38g33 7 | | | | | | |
| 489 | OR5DnP | H38g33 8 | | | | | | FL |
| 490 | OR7EnP | H38g33 9 | | | | | | |
| 491 | OR5L2 | H38g34 0 | | | HSHTPCRX16 | + | yes | FL |
| 492 | OR5Dn | H38g34 1 | | | | | yes | FL |
| 493 | ORnP | H38g34 2 | | | | | | |
| 494 | OR10Qn | H38g34 3 | | | | | yes | FL |
| 495 | OR9MnP | H38g34 4 | | | | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 496 | OR7E62P | H38g345 | | OST926 | OR2-4;OR2-52;OR2-53;OR2-75 | | | FL |
| 497 | OR9LnP | H38g346 | | | | | | FL |
| 498 | OR7E46P | H38g347 | | OST379 | | | | FL |
| 499 | OR1S1 | H38g348 | | OST034 | | | yes | FL |
| 500 | OR5DnP | H38g349 | | | | | | |
| 501 | OR9InP | H38g350 | | | | | | FL |
| 502 | OR5Dn | H38g351 | | | | | yes | FL |
| 503 | OR9QnP | H38g352 | | | | | | FL |
| 504 | OR51CnP | H38g353 | | | | | | |
| 505 | OR5WnP | H38g354 | | | | | | |
| 506 | OR9InP | H38g355 | | | | | | FL |
| 507 | OR51AnP | H38g356 | | | | | | FL |
| 508 | OR5L1 | H38g357 | | OST262 | | | yes | FL |
| 509 | OR7EnP | H38g358 | | | | + | | |
| 510 | OR5BLnP | H38g359 | | | | | | |
| 511 | OR51En | H38g360 | | | | | yes | FL |
| 512 | OR51Dn | H38g361 | | | | | yes | FL |
| 513 | OR52In | H38g362 | | | | | yes | FL |
| 514 | OR4KnP | H38g363 | DS67 | | | + | | FL |
| 515 | OR52In | H38g364 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 516 | OR4KnP | H38g365 | | | | | | FL |
| 517 | OR52MnP | H38g366 | | | | | | FL |
| 518 | ORnP | H38g367 | | | | | | |
| 519 | ORnP | H38g368 | | | | | | |
| 520 | ORnP | H38g369 | | | | | | FL |
| 521 | ORnP | H38g370 | | | | | | |
| 522 | ORnP | H38g371 | | | | | | |
| 523 | ORnP | H38g372 | | | | | | |
| 524 | ORnP | H38g373 | | | | | | |
| 525 | ORnP | H38g374 | | | | | | |
| 526 | OR6Pn | H38g375 | | | | | yes | FL |
| 527 | OR7EnP | H38g376 | | | | | | FL |
| 528 | ORnP | H38g377 | | | | | | |
| 529 | OR7EnP | H38g378 | | | | | | FL |
| 530 | ORnP | H38g379 | | | | | | |
| 531 | OR10XnP | H38g380 | | | | | | FL |
| 532 | OR10Zn | H38g381 | | | | | yes | FL |
| 533 | OR6KnP | H38g382 | | | | | | FL |
| 534 | OR6Kn | H38g383 | | | | | yes | FL |
| 535 | OR1FnP | H38g384 | | | | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 536 | OR1ABnP | H38g385 | | | | | | |
| 537 | OR52MnP | H38g386 | | | | | | FL |
| 538 | OR1XnP | H38g387 | | | | | | FL |
| 539 | OR4FnP | H38g388 | | | | | | |
| 540 | OR52MnP | H38g389 | | | | | | FL |
| 541 | OR2Vn | H38g390 | | | | | yes | FL |
| 542 | OR2V1P | H38g391 | | OST265 | | | | FL |
| 543 | OR2Zn | H38g392 | | | | | yes | FL |
| 544 | OR52KnP | H38g393 | | | | + | | |
| 545 | OR10Hn | H38g394 | | | | | yes | FL |
| 546 | OR2Dn | H38g395 | | | | | yes | FL |
| 547 | OR7EnP | H38g396 | | | | | | |
| 548 | OR11GnP | H38g397 | | | | | | FL |
| 549 | ORnP | H38g398 | | | | | | |
| 550 | OR11Gn | H38g399 | | | | | yes | FL |
| 551 | OR11HnP | H38g400 | | | | | | FL |
| 552 | OR6Kn | H38g401 | | | | | yes | FL |
| 553 | OR11Hn | H38g402 | | | | | yes | FL |
| 554 | OR6KnP | H38g403 | | | | | | |
| 555 | OR11HnP | H38g404 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 556 | OR6KnP | H38g405 | | | | | | FL |
| 557 | OR6Kn | H38g406 | | | | | yes | FL |
| 558 | OR2Ln | H38g407 | | | | | yes | FL |
| 559 | OR4GnP | H38g408 | | | | | | |
| 560 | OR6Nn | H38g409 | | | | | yes | FL |
| 561 | OR2LnP | H38g410 | | | | | | |
| 562 | OR9A1 | H38g411 | | | HSHTPCRX06 | | | |
| 563 | OR6Nn | H38g412 | | | | | yes | FL |
| 564 | OR10Hn | H38g413 | | | | | yes | FL |
| 565 | OR7EnP | H38g414 | | | | | | FL |
| 566 | OR2AQnP | H38g415 | | | | | | |
| 567 | OR2LnP | H38g416 | | | | | | FL |
| 568 | OR5ARn | H38g417 | | | | | yes | FL |
| 569 | OR7EnP | H38g418 | | | | | | FL |
| 570 | OR10AAnP | H38g419 | | | | | | FL |
| 571 | OR10JnP | H38g420 | | | | | | FL |
| 572 | OR5A1P | H38g421 | DS69;DS71;DS128;DS129 | OST181 | | + | yes | FL |
| 573 | OR2AHnP | H38g422 | | | | | | FL |
| 574 | OR10JnP | H38g423 | | | | | | FL |
| 575 | OR56BnP | H38g42 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 4 | | | | | | |
| 576 | OR5M1 | H38g425 | | OST050 | | | yes | FL |
| 577 | OR52WnP | H38g426 | | | | | | |
| 578 | OR5AMnP | H38g427 | | | | | | FL |
| 579 | OR52BnP | H38g428 | | | | | | FL |
| 580 | OR5MnP | H38g429 | | | | | | FL |
| 581 | OR5APnP | H38g430 | | | | | | FL |
| 582 | OR56Bn | H38g431 | | | | | yes | FL |
| 583 | OR5APn | H38g432 | | | | | yes | FL |
| 584 | OR52Bn | H38g433 | | | | | yes | FL |
| 585 | OR9Gn | H38g434 | | | | | yes | FL |
| 586 | OR52Kn | H38g435 | | | | | yes | FL |
| 587 | OR5MnP | H38g436 | | | | | | FL |
| 588 | OR52Kn | H38g437 | | | | | yes | FL |
| 589 | OR52KnP | H38g438 | | | | + | | FL |
| 590 | OR52BnP | H38g439 | | | | | | FL |
| 591 | OR2B6P | H38g440 | | | OR6-31 | | yes | FL |
| 592 | OR2WnP | H38g441 | | | | | | FL |
| 593 | OR2AnP | H38g442 | | | | | | FL |
| 594 | ORnP | H38g443 | | | | | | |
| 595 | OR2LnP | H38g444 | | | | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 596 | OR2W2P | H38g445 | DS148 | | dJ313I6.2;hs6M1-30P | + | | FL |
| 597 | OR2LnP | H38g446 | | | | | | |
| 598 | OR2B7P | H38g447 | | | dJ313I6.3;hs6M1-31P | | | FL |
| 599 | OR2Ln | H38g448 | | | | | yes | FL |
| 600 | OR5BFn | H38g449 | | | | | yes | FL |
| 601 | OR2LnP | H38g450 | | | | | | FL |
| 602 | OR7EnP | H38g451 | | | | | | |
| 603 | OR1H1 | H38g452 | DS122 | OST26 | | + | | FL |
| 604 | ORnP | H38g453 | | | | | | |
| 605 | OR4Dn | H38g454 | | | | | yes | FL |
| 606 | OR1Ln | H38g455 | | | | | yes | FL |
| 607 | OR5AXn | H38g456 | | | | | yes | FL |
| 608 | OR5An | H38g457 | | | | | yes | FL |
| 609 | OR5AYn | H38g458 | | | | | yes | FL |
| 610 | OR13Gn | H38g459 | | | | | yes | FL |
| 611 | OR5BBnP | H38g460 | | | | | | |
| 612 | OR9GnP | H38g461 | | | | | | FL |
| 613 | OR2TnP | H38g462 | | | | | | FL |
| 614 | ORnP | H38g463 | | | | | | FL |
| 615 | OR1Jn | H38g464 | | | | + | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 616 | OR2CnP | H38g465 | | | | | | FL |
| 617 | OR9GnP | H38g466 | | | | | | FL |
| 618 | OR2C1 | H38g467 | | | OLFmf3 | + | yes | FL |
| 619 | OR51AnP | H38g468 | | | | | | |
| 620 | OR9Gn | H38g469 | | | | | yes | FL |
| 621 | OR52Bn | H38g470 | | | | | yes | FL |
| 622 | OR1K1 | H38g471 | | | hg99 | | yes | FL |
| 623 | OR51RnP | H38g472 | | | | | | FL |
| 624 | OR7EnP | H38g473 | | | | | | FL |
| 625 | OR52PnP | H38g474 | | | | | | FL |
| 626 | OR7EnP | H38g475 | | | | | | FL |
| 627 | OR7EnP | H38g476 | | | | | | |
| 628 | OR4KnP | H38g477 | DS66 | | OR21-1 | + | | FL |
| 629 | OR4KnP | H38g478 | | | OR21-2 | | | FL |
| 630 | OR7EnP | H38g479 | | | | | | |
| 631 | OR51In | H38g480 | | | | | yes | FL |
| 632 | OR51In | H38g481 | | | | | yes | FL |
| 633 | OR2AnP | H38g482 | | | | | | |
| 634 | OR2A2 | H38g483 | | OST008 | | | | FL |
| 635 | OR2AnP | H38g484 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 636 | OR2Gn | H38g485 | | | | | yes | FL |
| 637 | OR2AnP | H38g486 | | | | | | |
| 638 | OR6Fn | H38g487 | DS20;DS21;DS23;DS27;DS28;DS39;DS40;DS113;DS126;DS135;DS137;DS138;DS139;DS140;DS141;DS145 | | | + | yes | FL |
| 639 | OR2AnP | H38g488 | | | | | | |
| 640 | OR2Gn | H38g489 | | | | | yes | FL |
| 641 | OR7E37P | H38g490 | | | hg533 | + | | FL |
| 642 | OR5AVn | H38g491 | DS4;DS6;DS11 | | | + | yes | FL |
| 643 | OR2AJnP | H38g492 | | | | | | FL |
| 644 | OR13EnP | H38g493 | | | | | | FL |
| 645 | OR2Cn | H38g494 | | | | | yes | FL |
| 646 | OR2TnP | H38g495 | | | | | | |
| 647 | OR2WnP | H38g496 | | | | | | |
| 648 | OR13Jn | H38g497 | | | | | yes | FL |
| 649 | OR6RnP | H38g498 | | | | | | FL |
| 650 | OR5ATn | H38g499 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 651 | OR2Zn | H38g500 | | | | | yes | FL |
| 652 | OR4Ln | H38g501 | | | | | yes | FL |
| 653 | OR4UnP | H38g502 | | | | | | FL |
| 654 | OR4Fn | H38g503 | | | | | yes | FL |
| 655 | OR4FnP | H38g504 | | | | | | FL |
| 656 | OR4Fn | H38g505 | | | | | yes | FL |
| 657 | OR4Fn | H38g506 | | | | | yes | FL |
| 658 | OR4AnP | H38g507 | | | | | | FL |
| 659 | OR4LnP | H38g508 | | | | | | FL |
| 660 | OR7E33P | H38g509 | | OST927 | hg688 | | | FL |
| 661 | OR2Cn | H38g510 | | | | | yes | FL |
| 662 | OR4Kn | H38g511 | | | | | yes | FL |
| 663 | OR5U1 | H38g512 | | | bA150A6.4;hs6M1-28 | | yes | FL |
| 664 | OR4Kn | H38g513 | | | | | yes | FL |
| 665 | OR5V1 | H38g514 | | | bA150A6.2;hs6M1-21 | | yes | FL |
| 666 | OR4QnP | H38g515 | | | | | | FL |
| 667 | OR12D3 | H38g516 | | | bA150A6.1;hs6M1-27 | | yes | FL |
| 668 | OR4Kn | H38g517 | | | | | yes | FL |
| 669 | OR51CnP | H38g518 | | | | | | |
| 670 | OR1J2 | H38g519 | | OST044 | hg152 | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 671 | OR5BJnP | H38g520 | | | | | | |
| 672 | OR1J1 | H38g521 | DS130 | OST928 | hg32 | + | yes | FL |
| 673 | OR13En | H38g522 | | | | | put | |
| 674 | OR4KnP | H38g523 | DS1 | | | + | | FL |
| 675 | OR1LnP | H38g524 | | | | | | |
| 676 | OR2CnP | H38g525 | | | | | | |
| 677 | OR4TnP | H38g526 | | | | | | FL |
| 678 | OR5BnP | H38g527 | | | | | | |
| 679 | OR4Kn | H38g528 | | | | | yes | FL |
| 680 | OR11Ln | H38g529 | | | | | yes | FL |
| 681 | OR7E68P | H38g530 | | OST929 | OR912-108;OR912-109;OR912-110;OR912-46;hg523;hg674 | | | FL |
| 682 | OR7EnP | H38g531 | | | | | | FL |
| 683 | OR7E31P | H38g532 | | OST016;OST205 | | | | FL |
| 684 | OR7EnP | H38g533 | | | | | | FL |
| 685 | OR5AKnP | H38g534 | | | | | | FL |
| 686 | OR5AKn | H38g535 | | | | | yes | FL |
| 687 | OR5AKn | H38g536 | | | | | yes | FL |
| 688 | OR5BQnP | H38g537 | | | | | | |
| 689 | OR1Nn | H38g538 | DS136;DS142 | | | + | yes | FL |
| 690 | OR1J4 | H38g539 | | OST930 | HSHTPCRX01 | + | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 691 | OR1Nn | H38g540 | | | | | yes | FL |
| 692 | OR2AnP | H38g541 | | | | | | FL |
| 693 | OR2ANnP | H38g542 | | | | | | |
| 694 | OR5K1 | H38g543 | | | HSHTPCRX10 | + | yes | FL |
| 695 | OR2K2 | H38g544 | | | HSHTPCRH06 | | yes | FL |
| 696 | OR8Hn | H38g545 | | | | | yes | FL |
| 697 | ORnP | H38g546 | | | | | | |
| 698 | OR4AnP | H38g547 | | | | | | |
| 699 | OR4An | H38g548 | | | | | yes | FL |
| 700 | OR6Sn | H38g549 | | | | | yes | FL |
| 701 | OR4RnP | H38g550 | | | | | | |
| 702 | OR13Cn | H38g551 | | | | | yes | FL |
| 703 | OR13DnP | H38g552 | | | | | | FL |
| 704 | OR7EnP | H38g553 | | | | | | FL |
| 705 | OR10PnP | H38g554 | | | | | | FL |
| 706 | OR8In | H38g555 | | | | | yes | FL |
| 707 | OR8G1 | H38g556 | | | HSTPCR25 | + | put | |
| 708 | ORnP | H38g557 | | | | | | |
| 709 | OR5F1 | H38g558 | | | OR11-10 | | yes | FL |
| 710 | OR5FnP | H38g559 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 711 | OR6BnP | H38g560 | | | | | | FL |
| 712 | OR2D1 | H38g561 | | | hg27 | | put | |
| 713 | OR5ASn | H38g562 | | | | | yes | FL |
| 714 | OR5SnP | H38g563 | | | | | | FL |
| 715 | OR5AQnP | H38g564 | | | | | | |
| 716 | OR6BnP | H38g565 | | | | | | FL |
| 717 | OR5JnP | H38g566 | | | | | | FL |
| 718 | OR9AnP | H38g567 | | | | | | FL |
| 719 | OR5BEnP | H38g568 | | | | | | FL |
| 720 | OR9An | H38g569 | | | | | yes | FL |
| 721 | OR8Hn | H38g570 | | | | | yes | FL |
| 722 | OR5BNnP | H38g571 | | | | | | |
| 723 | OR8Jn | H38g572 | | | | | yes | FL |
| 724 | OR9NnP | H38g573 | | | | | | |
| 725 | OR7EnP | H38g574 | | | | | | FL |
| 726 | OR7E9P | H38g575 | | OST289 | | | | FL |
| 727 | OR8KnP | H38g576 | | | | | | |
| 728 | OR2AnP | H38g577 | | | | | | |
| 729 | OR8Kn | H38g578 | | | | | yes | FL |
| 730 | OR7E39P | H38g579 | | OST931 | hg611 | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 731 | OR7E27P | H38g580 | | OST932 | hg616 | | | |
| 732 | OR2Hn | H38g581 | | | | | put | |
| 733 | OR13CnP | H38g582 | | | | | | FL |
| 734 | OR13Cn | H38g583 | | | | | yes | FL |
| 735 | OR2S1P | H38g584 | | OST611 | | | | FL |
| 736 | OR2AMnP | H38g585 | | | | | | |
| 737 | OR1N1 | H38g586 | | OST933 | OR1-26 | | put | |
| 738 | OR2S2 | H38g587 | | OST715 | | | yes | FL |
| 739 | OR7E26P | H38g588 | | | OR1-51;OR1-72;OR1-73;OR912-95 | | | |
| 740 | OR1F11 | H38g589 | | | hg91 | | put | |
| 741 | OR5ACnP | H38g590 | | | | | | FL |
| 742 | OR5B10P | H38g591 | | | OR13-34;OR13-64;OR13-67 | | | |
| 743 | OR2AnP | H38g592 | | | | | | FL |
| 744 | OR1E5 | H38g593 | DS117;DS143 | | OR13-66 | + | put | |
| 745 | OR4Fn | H38g594 | | | | | yes | FL |
| 746 | OR5CnP | H38g595 | | | | | | |
| 747 | OR2WnP | H38g596 | | | | | | |
| 748 | OR2L2 | H38g597 | | | HSHTPCRH07 | + | put | |
| 749 | OR4H8P | H38g598 | | | OR14-58 | | | |
| 750 | OR5D10P | H38g599 | | | OR912-94 | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 751 | OR7A12P | H38g600 | | | OR14-11;OR14-59 | | | |
| 752 | OR2L1 | H38g601 | | | HSHTPCRX02 | + | put | |
| 753 | OR2F3P | H38g602 | | | OR14-60 | | put | |
| 754 | OR4H10P | H38g603 | | OST934 | OR15-69;OR15-80;OR15-81 | | | |
| 755 | OR5H1 | H38g604 | | | HSHTPCRX14 | + | put | |
| 756 | OR2K1 | H38g605 | | | HSHTPCRX17 | + | put | |
| 757 | OR7E11P | H38g606 | | | OR11-2 | | | |
| 758 | OR7A3P | H38g607 | | OST935 | OR11-7b | | | |
| 759 | OR6A1 | H38g608 | | | OR11-55 | + | yes | FL |
| 760 | OR5I1 | H38g609 | | | OLF1 | + | yes | FL |
| 761 | OR2H3 | H38g610 | | | HUMORLMHC | + | yes | FL |
| 762 | OR10J1 | H38g611 | DS3;DS14 | | HSHGMP07J | + | yes | FL |
| 763 | OR7E3P | H38g612 | | | OR11-9 | | | |
| 764 | OR1D6P | H38g613 | | | OR11-13;OR11-22 | | | |
| 765 | OR5D10P | H38g614 | | | OR18-17;OR18-42;OR18-43;OR18-44 | | | |
| 766 | OR5D5P | H38g615 | | | OR18-79;OR912-47 | | | |
| 767 | OR52A1 | H38g616 | | | HPFH1OR | + | yes | FL |
| 768 | OR2AEn | H38g617 | | | | | yes | FL |
| 769 | OR6LnP | H38g618 | | | | | | FL |
| 770 | OR6LnP | H38g619 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 771 | OR7MnP | H38g620 | | | | | | |
| 772 | OR13Cn | H38g621 | | | | | yes | FL |
| 773 | OR13Cn | H38g622 | | | | | yes | FL |
| 774 | OR2InP | H38g623 | | | | + | | |
| 775 | OR4An | H38g624 | | | | | yes | FL |
| 776 | OR2InP | H38g625 | | | | + | | |
| 777 | OR4AnP | H38g626 | | | | | | FL |
| 778 | OR4AnP | H38g627 | | | | | | FL |
| 779 | OR8C1P | H38g628 | | | OR11-175 | | | |
| 780 | OR4AnP | H38g629 | | | | | | FL |
| 781 | OR7E15P | H38g630 | | | OR11-392 | | | |
| 782 | OR10A1 | H38g632 | | | OR11-403 | | put | |
| 783 | OR2An | H38g633 | | | | + | put | |
| 784 | OR7EnP | H38g634 | | | | + | | FL |
| 785 | OR7En | H38g635 | | | | + | put | |
| 786 | OR51A1P | H38g636 | | | HPFH6OR | + | | FL |
| 787 | OR7E47P | H38g637 | | | HSORBPL41;bpl41-16 | + | | FL |
| 788 | OR5B5P | H38g638 | | | OR3-144;OR912-92 | | | |
| 789 | OR1F10 | H38g639 | | | OR3-145 | | put | |
| 790 | OR8G2 | H38g640 | | | HSTPCR120 | + | put | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 791 | OR1Sn | H38g641 | | | | | yes | FL |
| 792 | OR4AnP | H38g642 | | | | | | FL |
| 793 | OR4AnP | H38g643 | | | | | | FL |
| 794 | OR4AnP | H38g644 | | | | | | FL |
| 795 | OR4AnP | H38g645 | | | | | | FL |
| 796 | OR4AnP | H38g646 | | | | | | FL |
| 797 | OR4AnP | H38g647 | | | | | | FL |
| 798 | OR4An | H38g648 | | | | | yes | FL |
| 799 | OR4An | H38g649 | | | | | yes | FL |
| 800 | OR7E42P | H38g650 | | OST001 | | | | |
| 801 | OR2M3P | H38g651 | | OST003 | | | | |
| 802 | OR4H11P | H38g652 | | | OR4-114;OR4-115;OR4-119 | | | |
| 803 | OR7E57P | H38g653 | | OST007 | | | | |
| 804 | OR2B1P | H38g654 | | | OR5-40;OR5-41 | | put | |
| 805 | OR7E34P | H38g655 | | OST011 | | | | |
| 806 | OR7E56P | H38g656 | | OST013 | | | | |
| 807 | OR3AnP | H38g657 | | | | | | |
| 808 | OR4H5P | H38g658 | | | OR5-39;OR5-84 | | | |
| 809 | OR1En | H38g659 | DS47;DS115;DS120;DS121;DS123;D | | | + | put | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | | S125 | | | | | |
| 810 | OR51CnP | H38g660 | | | | | | |
| 811 | OR2WnP | H38g661 | | | | | | FL |
| 812 | OR51B1P | H38g662 | | | AF149710 | | | FL |
| 813 | OR7E81P | H38g663 | | OST021 | | | | |
| 814 | OR7E44P | H38g664 | | OST022 | | | | |
| 815 | OR5B7P | H38g665 | | | OR6-55;OR6-57 | | | |
| 816 | OR7E36P | H38g666 | | OST024 | | | | |
| 817 | OR2A5 | H38g667 | | | OR7-138;OR7-141 | | put | |
| 818 | OR5B1P | H38g668 | | OST936 | OR8-122;OR8-123 | | | |
| 819 | OR8B8 | H38g669 | | | HSTPCR85 | + | yes | FL |
| 820 | OR8B4P | H38g670 | | | AC002556-D | | yes | FL |
| 821 | ORnP | H38g671 | | | | | | FL |
| 822 | OR8B3 | H38g672 | | | AC002556-B | | yes | FL |
| 823 | OR2Bn | H38g673 | | | | | yes | FL |
| 824 | OR8B6P | H38g674 | | | AC002556-G | | | FL |
| 825 | OR8B5P | H38g675 | | | AC002556-A | | | FL |
| 826 | OR4E2 | H38g676 | | | AE000658-A | | yes | FL |
| 827 | OR8B7P | H38g677 | | | AC002556-F | | | FL |
| 828 | OR11JnP | H38g678 | | | | | | FL |
| 829 | OR4E1P | H38g679 | | | AE000658 | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 830 | OR10DnP | H38g680 | | | | | | |
| 831 | ORnP | H38g681 | | | | | | |
| 832 | OR8D2 | H38g682 | | | AC002556-E | | yes | FL |
| 833 | OR11InP | H38g683 | | | | | | FL |
| 834 | OR11JnP | H38g684 | | | | | | FL |
| 835 | OR10AnP | H38g685 | DS12;DS65 | | | + | | FL |
| 836 | OR8C3P | H38g686 | | | OR912-106;OR912-45;pDJ9j14 | | | FL |
| 837 | OR2DnP | H38g687 | | | | | | FL |
| 838 | OR4PnP | H38g688 | | | | | | |
| 839 | OR7E21P | H38g689 | | OST035 | OR4DG | | | |
| 840 | OR2M1 | H38g690 | | OST037 | | | put | |
| 841 | OR7AnP | H38g691 | | | | | | |
| 842 | OR5D11P | H38g692 | | | OR8-125;OR8-127 | | | |
| 843 | OR7E50P | H38g693 | | | OR8-126 | | | |
| 844 | OR7E45P | H38g694 | | OST049 | | | | |
| 845 | OR7E77P | H38g695 | | OST060 | | | | |
| 846 | OR8B2 | H38g696 | | | AC002556-C | | yes | FL |
| 847 | OR8D1 | H38g697 | | OST004 | pDJ9j14 | | yes | FL |
| 848 | OR8B1P | H38g698 | | OST937 | OR11-561 | | | FL |
| 849 | OR7A1P | H38g699 | | OST938 | OLF4p;OR19-3;hg513 | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 850 | OR7E8P | H38g700 | | | OR11-11a;pDJ392a17 | | | FL |
| 851 | OR4DnP | H38g701 | | | | | | FL |
| 852 | OR7E80P | H38g702 | | OST939 | pDJ392a17 | | | FL |
| 853 | OR4DnP | H38g703 | | | | | | FL |
| 854 | OR7E10P | H38g704 | | | AC000385-A | | | FL |
| 855 | OR10B1P | H38g705 | | | AC003956-A;OR19-19 | | | FL |
| 856 | OR2InP | H38g706 | | | | + | | |
| 857 | OR4Dn | H38g707 | | | | | yes | FL |
| 858 | OR5ACn | H38g708 | | | | | put | |
| 859 | OR2I1 | H38g709 | | | AC004179-A;dJ271M21.7;hs6M1-14 | + | | |
| 860 | OR10H1 | H38g710 | | | AC004510 | + | yes | FL |
| 861 | OR7E59P | H38g711 | | OST119 | | | | |
| 862 | OR7E28P | H38g712 | | OST128 | | | | |
| 863 | OR5B3 | H38g713 | | OST129 | | | put | |
| 864 | OR2A6 | H38g714 | | OST182 | | | put | |
| 865 | OR6Cn | H38g715 | | | | | put | |
| 866 | OR7E54P | H38g716 | | OST185 | | | | |
| 867 | OR7E48P | H38g717 | | OST193 | | | | |
| 868 | OR67AnP | H38g718 | | | | | | FL |
| 869 | OR4DnP | H38g719 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 870 | OR4CnP | H38g720 | | | | | | FL |
| 871 | OR4DnP | H38g721 | | | | | | FL |
| 872 | OR10H2 | H38g722 | | | AC004597-A | + | yes | FL |
| 873 | OR10H3 | H38g723 | | | AC004597-B | + | yes | FL |
| 874 | OR55CnP | H38g724 | | | | | | |
| 875 | OR55BnP | H38g725 | | | | | | |
| 876 | OR52VnP | H38g726 | | | | | | FL |
| 877 | OR2B3 | H38g727 | | | OR6-4;dJ80I19.1;hs6M1-1 | | yes | FL |
| 878 | OR52TnP | H38g728 | | | | | | FL |
| 879 | OR2J1P | H38g729 | | | OR6-5;dJ80I19.2;hs6M1-4 | | | FL |
| 880 | OR52HnP | H38g730 | | | | | | FL |
| 881 | OR2J3 | H38g731 | | | OR6-6;dJ80I19.7;hs6M1-3 | | yes | FL |
| 882 | OR52An | H38g732 | | | | + | put | |
| 883 | OR4Qn | H38g733 | | | | | put | |
| 884 | OR52BnP | H38g734 | | | | | | FL |
| 885 | OR2N1P | H38g735 | DS9 | | OR6-7;dJ80I19.3;hs6M1-2 | + | | FL |
| 886 | OR51EnP | H38g736 | | | | + | | |
| 887 | OR2J2 | H38g737 | | | OR6-8;dJ80I19.4;hs6M1-6 | | yes | FL |
| 888 | OR2In | H38g738 | | | | + | put | |
| 889 | OR2J4P | H38g739 | | | OR6-9;dJ80I19.5;hs6M1-5 | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 890 | OR7E40P | H38g740 | | OST215 | | | | |
| 891 | OR2H4P | H38g741 | | | OR6-3;dJ80I19.6;hs6M1-7 | | | FL |
| 892 | OR7E52P | H38g742 | | OST245 | | | | |
| 893 | OR2InP | H38g743 | | | | + | | |
| 894 | OR6C1 | H38g744 | | OST267 | | | put | |
| 895 | OR7E30P | H38g745 | | OST339 | | | | |
| 896 | OR5BAnP | H38g746 | DS132 | | | + | | |
| 897 | OR7H1P | H38g747 | | OST940 | CIT-B-440L2 | | | FL |
| 898 | OR5B2 | H38g748 | | OST073 | | | yes | FL |
| 899 | OR5AZnP | H38g749 | | | | | | FL |
| 900 | OR5Bn | H38g750 | | | | | yes | FL |
| 901 | OR52Bn | H38g751 | | | | | yes | FL |
| 902 | OR5BnP | H38g752 | | | | | | FL |
| 903 | OR52Dn | H38g753 | | | | | yes | FL |
| 904 | OR7A11 | H38g754 | | OST527 | CIT-HSP-87m17 | | | FL |
| 905 | OR5BnP | H38g755 | | | | | | FL |
| 906 | OR51AnP | H38g756 | | | | | | FL |
| 907 | OR7A15P | H38g757 | | OST941 | CIT-HSP-87m17;OR19-1;OR19-134;OR19-146 | | | FL |
| 908 | OR7C2 | H38g758 | | | CIT-HSP-87m17;OR19-18 | | yes | FL |
| 909 | OR7E23P | H38g759 | | OST942 | OR21-3 | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 910 | OR2E1 | H38g760 | | | HS29K1;HSNH0569I24;hs6M1-9 | | | |
| 911 | OR1I1 | H38g761 | | | F20569;OR19-20 | | yes | FL |
| 912 | OR1RnP | H38g762 | | | | | | FL |
| 913 | OR4F3 | H38g763 | | | AC004908 | | yes | FL |
| 914 | OR2AEn | H38g764 | | | | | yes | FL |
| 915 | OR2InP | H38g765 | | | | + | | |
| 916 | OR52AnP | H38g766 | | | | + | | |
| 917 | OR7C1 | H38g767 | | OST943 | CIT-HSP-146e8;OR19-5;TPCR86 | + | yes | FL |
| 918 | OR2A3P | H38g768 | | | AC004889-B | | | FL |
| 919 | OR7A5 | H38g769 | DS8;DS19;DS61;DS68;DS112 | OST944 | HTPCR2 | + | yes | FL |
| 920 | OR2InP | H38g770 | DS72 | | | + | | |
| 921 | OR7A10 | H38g771 | | OST027 | CIT-HSP-146e8 | | yes | FL |
| 922 | OR2An | H38g772 | | | | + | put | |
| 923 | OR2M2 | H38g773 | | OST423 | | | put | |
| 924 | OR7A8P | H38g774 | | OST042 | OR19-11;hg83 | | | FL |
| 925 | OR2An | H38g775 | | | | + | put | |
| 926 | OR7E20P | H38g776 | | OST516 | | | | |
| 927 | OR2AnP | H38g777 | | | | + | | |
| 928 | OR5BHnP | H38g778 | | | | + | | |
| 929 | OR1En | H38g77 | | | | | put | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 9 | | | | | | |
| 930 | OR1EnP | H38g780 | | | | | | |
| 931 | OR5Bn | H38g781 | | | | | yes | FL |
| 932 | OR8RnP | H38g782 | | | | | | |
| 933 | OR5ANn | H38g783 | | | | | yes | FL |
| 934 | OR5ANnP | H38g784 | | | | | | FL |
| 935 | OR5BRnP | H38g785 | | | | | | FL |
| 936 | OR2A1 | H38g786 | | | AC004889-A | + | yes | FL |
| 937 | OR10An | H38g787 | | | | | yes | FL |
| 938 | OR2A9 | H38g788 | DS149 | | HSDJ0798C17 | + | | FL |
| 939 | OR2A7 | H38g789 | | | HSDJ0798C17 | + | yes | FL |
| 940 | OR10A3 | H38g790 | | | HSHTPCRX12 | + | yes | FL |
| 941 | OR10Cn | H38g791 | | | | | yes | FL |
| 942 | OR7A2P | H38g792 | | | OLF4p;OR19-18;hg1003 | | yes | FL |
| 943 | OR10WnP | H38g793 | | | | | | FL |
| 944 | OR7A17 | H38g794 | | | HSHTPCRX19 | | yes | FL |
| 945 | OR5Bn | H38g795 | | | | | yes | FL |
| 946 | OR5BnP | H38g796 | | | | | | FL |
| 947 | OR1Q1 | H38g797 | | OST226 | HSTPCR106;OR9-A;hRPK-465_F_21 | + | yes | FL |
| 948 | OR2Hn | H38g798 | DS133;DS144;DS150 | | | + | yes | FL |
| 949 | OR7EnP | H38g79 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 9 | | | | | | |
| 950 | OR7A14 | H38g800 | | OST945 | OR19-12 | | | |
| 951 | OR1B1 | H38g801 | | | OR9-B;hRPK-465_F_21 | | yes | FL |
| 952 | OR12D2 | H38g802 | | | AC004171;dJ994E9.8;hs6M1-20 | + | yes | FL |
| 953 | OR7EnP | H38g803 | | | | | | FL |
| 954 | OR8BnP | H38g804 | | | | | | FL |
| 955 | OR1L1 | H38g805 | | | OR9-C;hRPK-465_F_21;hg23 | | yes | FL |
| 956 | OR11An | H38g806 | | | | | yes | FL |
| 957 | OR7AnP | H38g807 | | | | | | |
| 958 | OR1C1 | H38g808 | | | HSTPCR27 | + | yes | FL |
| 959 | OR1D2 | H38g809 | | OST946 | OR17-4 | + | yes | FL |
| 960 | OR1L3 | H38g810 | | | OR9-D;hRPK-465_F_21 | | yes | FL |
| 961 | OR12DnP | H38g811 | | | | | | FL |
| 962 | OR4G1P | H38g812 | | | OLB | | | FL |
| 963 | OR2B4P | H38g813 | | | AL050339-A;dJ974I11.1;hs6M1-22 | | | |
| 964 | OR11H1 | H38g814 | | | OR22-1 | | yes | FL |
| 965 | OR4Fn | H38g815 | | | | | yes | FL |
| 966 | OR56AnP | H38g816 | | | | | | FL |
| 967 | OR8NnP | H38g817 | | | | | | FL |
| 968 | OR7EnP | H38g818 | | | | | | |
| 969 | OR4Pn | H38g81 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| | | 9 | | | | | | |
| 970 | OR6Cn | H38g820 | | | | | put | |
| 971 | OR5BCnP | H38g821 | | | | | | |
| 972 | OR10QnP | H38g822 | DS64 | | | + | | FL |
| 973 | OR5BnP | H38g823 | | | | | | FL |
| 974 | OR10PnP | H38g824 | | | | | | FL |
| 975 | OR1L4 | H38g825 | | OST046 | OR9-E;hRPK-465_F_21 | | yes | FL |
| 976 | OR2APnP | H38g826 | | | | | | |
| 977 | OR1L6 | H38g827 | | OST947 | HShRPK-465_F_21;hg16 | | yes | FL |
| 978 | OR6UnP | H38g828 | | | | | | FL |
| 979 | OR5C1 | H38g829 | | | OR9-F;hRPK-465_F_21 | | yes | FL |
| 980 | OR11InP | H38g830 | | | | | | FL |
| 981 | OR4AnP | H38g831 | | | | | | FL |
| 982 | OR4GnP | H38g832 | | | | | | FL |
| 983 | OR10Vn | H38g833 | | | | | yes | FL |
| 984 | OR4G2P | H38g834 | | | HS14a-1-B | | | FL |
| 985 | OR10VnP | H38g835 | | | | + | | |
| 986 | OR4F4 | H38g836 | | | HS14a-1-A | | yes | FL |
| 987 | OR4G3P | H38g837 | | | OLC-7501 | | | FL |
| 988 | OR5AKnP | H38g838 | | | | | | FL |
| 989 | OR10YnP | H38g839 | | | | | | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 990 | OR4GnP | H38g840 | | | | | | FL |
| 991 | ORnP | H38g841 | | | | | | |
| 992 | OR4Fn | H38g842 | | | | | yes | FL |
| 993 | OR8A1 | H38g843 | | OST025 | | | yes | FL |
| 994 | OR8Bn | H38g844 | | | | | yes | FL |
| 995 | OR6DnP | H38g845 | | | | | | |
| 996 | OR7E14P | H38g846 | | OST948 | OR11-5 | + | | FL |
| 997 | OR2M4 | H38g847 | | OST710 | HSHTPCRX18 | + | put | |
| 998 | OR4WnP | H38g848 | | | | | | |
| 999 | OR4Fn | H38g849 | DS36 | | | + | yes | FL |
| 1000 | OR7EnP | H38g850 | | | | | | |
| 1001 | OR4GnP | H38g851 | | | | | | FL |
| 1002 | OR10JnP | H38g852 | | | | | | |
| 1003 | OR52En | H38g853 | | | | | yes | FL |
| 1004 | OR4RnP | H38g854 | | | | | | FL |
| 1005 | OR4Cn | H38g855 | | | | | yes | FL |
| 1006 | OR4AnP | H38g856 | | | | | | |
| 1007 | OR4AnP | H38g857 | DS54 | | | + | | |
| 1008 | OR4AnP | H38g858 | | | | | | FL |
| 1009 | OR9Gn | H38g859 | | | | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 1010 | OR10An | H38g860 | | | | | yes | FL |
| 1011 | OR4Cn | H38g861 | | | | | yes | FL |
| 1012 | OR10VnP | H38g862 | | | | | | |
| 1013 | OR10UnP | H38g863 | | | | | | FL |
| 1014 | OR7E2P | H38g864 | DS127 | | OR11-6;hg94 | + | | FL |
| 1015 | OR7E35P | H38g865 | | OST018 | | | | FL |
| 1016 | OR9KnP | H38g866 | | | | | | |
| 1017 | OR7E13P | H38g867 | | OST949 | OR11-4 | | | FL |
| 1018 | OR7EnP | H38g868 | | | | | | FL |
| 1019 | OR9Kn | H38g869 | | | | | yes | FL |
| 1020 | ORnP | H38g870 | | | | | | FL |
| 1021 | OR7EnP | H38g871 | | OST950 | OR11-1;hg500 | + | | FL |
| 1022 | OR7EnP | H38g872 | | | | | | FL |
| 1023 | OR3A4P | H38g873 | | OST951 | OR17-24;OR17-25 | + | yes | FL |
| 1024 | OR8QnP | H38g874 | | | | | | |
| 1025 | OR7EnP | H38g875 | | | | | | FL |
| 1026 | OR7EnP | H38g876 | | | | | | FL |
| 1027 | OR3A1 | H38g877 | DS2 | | OLFRA03;OR17-40;hg138 | + | yes | FL |
| 1028 | OR5Gn | H38g878 | | | | | yes | FL |
| 1029 | OR5MnP | H38g879 | | | | | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 1030 | OR7EnP | H38g880 | | | | | | FL |
| 1031 | OR5G1P | H38g881 | | OST952 | OR11-104;OR93;OR93Hum | | | FL |
| 1032 | OR5PnP | H38g882 | | | | | | FL |
| 1033 | OR10AEnP | H38g883 | | | | | | |
| 1034 | OR3A2 | H38g884 | | OST953 | OR17-228 | + | yes | FL |
| 1035 | OR10Jn | H38g885 | | | | | yes | FL |
| 1036 | OR1D3P | H38g886 | | OST954 | OR17-23 | | | FL |
| 1037 | OR10Jn | H38g887 | | | | | yes | FL |
| 1038 | OR1D4 | H38g888 | | | OR17-30 | + | yes | FL |
| 1039 | OR5GnP | H38g889 | | | | | | FL |
| 1040 | OR4SnP | H38g890 | | | | | | FL |
| 1041 | OR5GnP | H38g891 | | | | | | FL |
| 1042 | OR9HnP | H38g892 | | | | | | FL |
| 1043 | OR1A1 | H38g893 | | | OR17-7 | + | yes | FL |
| 1044 | OR1A2 | H38g894 | | | OR17-6 | + | yes | FL |
| 1045 | OR8AnP | H38g895 | | | | | | FL |
| 1046 | OR1P1P | H38g896 | | | OR17-208 | + | | FL |
| 1047 | OR7E12P | H38g897 | | OST955 | AC000378-A;OR11-3;hg1058 | + | | FL |
| 1048 | OR4A1P | H38g898 | | | OR11-30 | | | FL |
| 1049 | OR10G3 | H38g899 | | | AE000658-D | | yes | FL |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 1050 | OR10G1P | H38g900 | | | AE000658-C | | | FL |
| 1051 | OR10G2 | H38g901 | | | AE000658-B | | yes | FL |
| 1052 | OR5Tn | H38g902 | | | | | yes | FL |
| 1053 | OR7EnP | H38g903 | | | | | | FL |
| 1054 | OR7EnP | H38g904 | | | | | | FL |
| 1055 | OR4AnP | H38g905 | | | | | | FL |
| 1056 | OR4C1 | H38g906 | | | HSHTPCRX11 | + | | FL |
| 1057 | OR1EnP | H38g907 | | | | | | |
| 1058 | OR7KnP | H38g908 | | | | | | FL |
| 1059 | OR4CnP | H38g909 | | | | | | FL |
| 1060 | OR1RnP | H38g910 | | | | | | FL |
| 1061 | OR5AUn | H38g911 | | | | | yes | FL |
| 1062 | OR4Cn | H38g912 | | | | | yes | FL |
| 1063 | OR4Cn | H38g913 | | | | | yes | FL |
| 1064 | OR13DnP | H38g914 | | | | | | FL |
| 1065 | OR5n | H38g915 | DSU116 | | | + | | |
| 1066 | OR2Hn | H38g916 | DSU150 | | | + | | |
| 1067 | ORn | H38g917 | DSU151 | | | + | put | |
| 1068 | ORn | H38g918 | DSU17 | | | + | | |
| 1069 | ORn | H38g919 | DSU18 | | | + | | |

| SEQ ID # | Symbol | HORDE | Digi | OST | Trivial | Tran | Int. | E |
|---|---|---|---|---|---|---|---|---|
| 1070 | ORn | H38g920 | DSU35 | | | + | | |
| 1071 | OR6Fn | H38g921 | DSU41 | | | + | | |
| 1072 | ORn | H38g922 | DSU49 | | | + | | |
| 1073 | ORn | H38g923 | DSU50 | | | + | | |
| 1074 | OR10An | H38g924 | DSU57 | | | + | | |
| 1075 | ORn | H38g925 | DSU58 | | | + | | |
| 1076 | OR2Ln | H38g926 | DSU59 | | | + | | |
| 1077 | OR10Jn | H38g927 | DSU60 | | | + | | |
| 1078 | OR1Kn | H38g928 | DSU63 | | | + | | |
| 1079 | OR10Dn | H38g929 | DSU7 | | | + | | |
| 1080 | ORn | H38g930 | DSU32 | | | + | | |
| 1081 | OR2Ln | H38g931 | DSU38 | | | + | | |
| 1082 | ORn | H38g932 | DSU62 | | | + | | |
| 1083 | ORn | H38g933 | DSU48 | | | + | | |
| 1084 | OR2n | H38g934 | DSU111 | | | + | | |

## Table 2

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 153 | OR10D3 | 0 | 11 | 137.96 | ...........SDVISV | 69 | M | AC074177.4 | 12106 ... 13038 |
| 154 | OR7EnP | 4 | 4 | 11.58 | MVACGVLDLHIIDSFAL | 53 | R | AF091580.1 | 7 ... 663 |
| 155 | OR1D5 | 0 | 17 | 3.75 | LVVTNLLYLLLLTGIFT | 49 | M | AF073967.1 | 2 ... 649 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 156 | OR10NnP | 4 | 11 | 138.02 | LQGSGVVHILFGNVLAT | 82 | M | AC074177.4 | 159287 ... 158526 |
| 157 | OR2F1 | 0 | 7 | 148.62 | LLGGFTSSVQIISSLLT | 56 | M | AF073974.1 | 41 ... 649 |
| 158 | OR7EnP | 7 | 4 | 11.58 | MAGGELLDLHILPALGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 159 | OR8FnP | 6 | 11 | 137.96 | LLVICEMGAHCVCSNIF | 75 | M | AC069561.10 | 51687 ... 50743 |
| 160 | OR2Q1P | 2 | 7 | 148.62 | LLCGFSANMEIVSGVIL | 49 | M | AC020865.3 | 190954 ... 189954 |
| 161 | OR2W1 | 0 | 6 | 33.74 | LMGSCMINVLLVLGIVT | 88 | M | AF102516.1 | 52 ... 669 |
| 162 | OR7EnP | 7 | 4 | 11.58 | MVACGVLDLHITHSFGL | 53 | R | AF091580.1 | 7 ... 663 |
| 163 | OR6B1 | 0 | 7 | 148.62 | LIMCCGIIAKFDLAIFF | 61 | M | NM_010983.1 | 178 ... 975 |
| 164 | OR10Kn | 0 | 1 | 154.34 | MLGSSACVVTLILGALI | 79 | M | AC073778.1 | 168744 ... 167803 |
| 165 | ORnP | 13 | 11 | 138.02 | VPYCIGGHLLICLSLSS | 33 | M | AC074177.4 | 12106 ... 13038 |
| 166 | OR4F2P | 4 | 6 | 186.49 | IHGGMVLHFQFVNSICG | 50 | M | AB030896.1 | 1 ... 906 |
| 167 | OR7EnP | 3 | 4 | 11.58 | MVACGVLDLHIIDSFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 168 | OR1F2P | 0 | 16 | 6.15 | MSADNGVNLHLIEAVTT | 72 | R | M64377.1 | 1 ... 939 |
| 169 | OR2P1P | 7 | 6 | 33.74 | FGGSCMSNQSALVRXSV | 48 | M | NM_008762.1 | 1 ... 936 |
| 170 | OR7E43P | 5 | 4 | 5.57 | MAGGELFDLHIMPAFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 171 | OR4F1 | 4 | 6 | 0.23 | IHGGMVLHFQFVNSICG | 50 | M | AB030896.1 | 1 ... 906 |
| 172 | OR7E55P | 5 | 3 | 89.94 | MAGDEFLDLHILPAFGL | 53 | M | AF073989.1 | 547 ... 1515 |
| 173 | OR13Dn | 0 | 9 | 86.89 | MLGSCWITLQLMTNSLI | 61 | M | AC023789.5 | 371264 ... 372220 |
| 174 | OR4CnP | 3 | 16 | | AHGAIVGHIQFVNSICL | 74 | M | AF102522.1 | 40 ... 660 |
| 175 | OR10D1P | 1 | 11 | 137.96 | LHGCCGFQFLLGSVMPS | 83 | M | AC074177.4 | 128803 ... 129726 |
| 176 | OR4Cn | 0 | 16 | | LHGGIVGHVQLVNSICL | 86 | M | AB030895.1 | 1 ... 924 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 177 | OR8GnP | 0 | 11 | 137.96 | LSAICGLGIHFVLSNIM | 73 | M | AC074177.4 | 106297 ... 105361 |
| 178 | OR13CnP | 2 | 9 | 86.85 | MFGACGGNLQLMASFLG | 82 | M | AJ251154.1 | 2703 ... 1747 |
| 179 | OR4CnP | 5 | 16 | | LHEAIVLHIQFINSLCL | 61 | M | AF102522.1 | 40 ... 660 |
| 180 | OR13Cn | 0 | 9 | 86.81 | MLGTCGINVQFMATFIT | 69 | M | AJ133425.1 | 61 ... 1014 |
| 181 | OR4CnP | 0 | 16 | | LHGGIMGHIQLVNSMCL | 63 | M | AB030895.1 | 1 ... 924 |
| 182 | OR51Bn | 0 | 11 | | AHSVSGRSPVRPLITIL | 76 | M | AF071080.2 | 15931 ... 16851 |
| 183 | OR7E5P | 2 | 11 | 51.76 | MVACDVLDLHIIDSFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 184 | OR13Cn | 0 | 9 | 86.77 | MFGSCVSNVQLMSNFLL | 71 | M | AJ251154.1 | 2703 ... 1747 |
| 185 | OR4Sn | 0 | 16 | | LHGGIAAHLQLVNSISA | 56 | M | AB030895.1 | 1 ... 924 |
| 186 | OR51BnP | 4 | 11 | | VHYPEWRSPPPPLVIFL | 72 | M | AF071080.2 | 15931 ... 16851 |
| 187 | OR6JnP | 1 | 14 | 2.72 | CFGTFFGSFPLDLSVIC | 50 | R | M64378.1 | 1 ... 933 |
| 188 | OR51Bn | 0 | 11 | | SHAISGRSPISPQTTVL | 76 | M | AF071080.2 | 26330 ... 27262 |
| 189 | OR7EnP | 2 | 11 | 71.8 | MFACGVLDLHIIDSFGL | 55 | M | AF102536.1 | 22 ... 669 |
| 190 | OR2An | 0 | 6 | 144.32 | TSAVCTTLIHLVGAGLG | 81 | M | L14566.1 | 62 ... 667 |
| 191 | OR7E22P | 3 | 3 | 89.94 | MVACDVLDLHIIDSFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 192 | OR7E4P | 2 | 11 | 71.8 | IVACDVLDLHIMHSFGL | 55 | M | AF102536.1 | 22 ... 669 |
| 193 | OR7E66P | 9 | 3 | 89.94 | MAGGELLFLHIMPAFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 194 | OR6Mn | 0 | 11 | 138.18 | TFGTFGGSFPVNLSVIS | 50 | M | NM_010991.1 | 1 ... 939 |
| 195 | OR2ALnP | 11 | 11 | 112.69 | ILGTCASNFDFFNHLLL | 32 | M | AL359352.1 | 85325 ... 86251 |
| 196 | OR6MnP | 2 | 11 | 138.18 | TGGTFGGSCPVNLSILT | 50 | M | NM_010991.1 | 1 ... 939 |
| 197 | OR4D1 | 0 | 17 | 60.7 | IHGGVAGHVQLMNSLVI | 90 | M | AC019272.4 | 62255 ... 61317 |
| 198 | OR5D2P | 3 | 11 | 51.09 | LCVVTTWCTLFTSANES | 48 | M | AC073947.3 | 29192 ... 30115 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 199 | OR7E38P | 7 | 7 | 95.91 | MAGGELFHLHIMPAFGL | 55 | R | AF091580.1 | 7 ... 663 |
| 200 | OR4D2 | 0 | 17 | 60.7 | IHGGVAGHVQLKNSLDV | 89 | M | AC019272.4 | 183633 ... 182701 |
| 201 | OR7E7P | 4 | 7 | 95.91 | MIACGVLDLHIIDSFGL | 56 | R | AF091580.1 | 7 ... 663 |
| 202 | OR5AHnP | 0 | 19 | 68.97 | ...........RSGIMC | 77 | M | AC020957.2 | 48184 ... 49107 |
| 203 | OR2U2P | 5 | 6 | 33.53 | LVYSCIVNIPYTMCIVV | 49 | M | AC044846.2 | 105668 ... 104736 |
| 204 | OR2U1P | 2 | 6 | 33.53 | LVCTCMINILCCVVIFA | 54 | M | AF102516.1 | 52 ... 669 |
| 205 | OR2H2 | 0 | 6 | 33.19 | ILGTCVIEVQSVASILV | 89 | M | AL078630.1 | 41097 ... 40165 |
| 206 | OR2H5P | 7 | 6 | 33.19 | FLGTCVIEVQSMASILV | 84 | M | AL078630.1 | 41097 ... 40165 |
| 207 | OR2In | 0 | 6 | 33.19 | LLGSCASNAQLMARILL | 74 | M | AL078630.1 | 151152 ... 150391 |
| 208 | OR11HnP | 5 | 13 | | IFNTCLCWIPLCLSVIG | 60 | M | AF121972.1 | 171 ... 1109 |
| 209 | OR7EnP | 6 | | | AAACDVIDLHITHSFGL | 56 | M | AF073964.1 | 41 ... 649 |
| 210 | OR9In | 0 | 11 | 54.06 | FTAGCGCGLRCIFGVIA | 50 | R | AF091579.1 | 7 ... 663 |
| 211 | OR2AFnP | 11 | X | 140.17 | MLGTCGHVTLAGISTLL | 43 | R | L34074.1 | 73 ... 1011 |
| 212 | OR13KnP | 5 | X | 140.17 | MFGMCVIIIHLGIGTLL | 43 | R | L34074.1 | 73 ... 1011 |
| 213 | OR13Cn | 0 | 9 | 86.77 | MFGSCVSNVQLLSNFLL | 68 | M | AJ251154.1 | 2703 ... 1747 |
| 214 | OR13Fn | 0 | 9 | 86.77 | MLGSCGTTVESMISLLM | 55 | M | AJ133428.1 | 61 ... 1017 |
| 215 | OR9Qn | 0 | 11 | 54.08 | FTGSCGASVRSIFAVIA | 47 | M | AF146372.1 | 509 ... 1456 |
| 216 | OR2TnP | 1 | 1 | 254.77 | ILIGFGGDMLVMCCMLI | 71 | M | AF102527.1 | 22 ... 669 |
| 217 | OR4Kn | 0 | 14 | 0.08 | IHVGMIVHSHFTNSISS | 56 | M | AF259072.1 | 104176 ... 105099 |
| 218 | OR2B8P | 0 | 6 | 31.6 | LLGSCTINLQLLVSILV | 62 | R | L34074.1 | 73 ... 1011 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 219 | OR2Tn | 0 | 1 | 254.77 | MLAGVALDLLITCCMLT | 57 | M | AF102527.1 | 22 ... 669 |
| 220 | OR4Kn | 0 | 14 | 0.08 | IHTGIAMHSQFMTSIAS | 53 | M | AF259072.1 | 104176 ... 105099 |
| 221 | OR2A4 | 0 | 6 | 144.76 | TSAVCTTLIHLVGAGLG | 81 | M | L14566.1 | 62 ... 667 |
| 222 | OR7EnP | 6 | 2 | 161.53 | MVACDVLDLHIIDSFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 223 | OR4Kn | 0 | 14 | 0.08 | MHGGILVHSQFMTSIAV | 57 | M | AF259072.1 | 104176 ... 105099 |
| 224 | OR13InP | 6 | 9 | 86.85 | MYGSCVLNNVVIGKTLL | 41 | M | AJ251155.1 | 15491 ... 16423 |
| 225 | OR7EnP | 8 | 2 | 161.53 | MVACDVLDLHIFFDFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 226 | OR6Jn | 0 | 14 | 2.72 | CFGTFFGSFPLDLSVIC | 50 | R | M64378.1 | 1 ... 933 |
| 227 | OR4Mn | 0 | 14 | 0.08 | LHGAMLGHIQLMSSISV | 54 | M | AC019272.4 | 183633 ... 182701 |
| 228 | OR4VnP | 10 | 11 | 51.09 | IHGIIVLHFQMVNSFAV | 50 | M | AB030896.1 | 1 ... 906 |
| 229 | OR6Xn | 0 | 11 | 138.36 | AFGTFSVICQLGATVIG | 46 | M | AF106007.1 | 178 ... 975 |
| 230 | OR51Gn | 0 | 11 | 3.7 | LHSSSSRLPLLGVVTVV | 55 | M | NM_013617.1 | 1 ... 921 |
| 231 | OR6EnP | 3 | 14 | 2.72 | SFGTFCTLIPLGIASLG | 82 | M | NM_010991.1 | 1 ... 939 |
| 232 | OR4NnP | 2 | 14 | 0.08 | LHGGGAGHIQLMNSMTL | 54 | M | AC019272.4 | 62255 ... 61317 |
| 233 | OR6MnP | 7 | 11 | 138.18 | IFGTFGGARLVSXSMVT | 37 | R | M64378.1 | 1 ... 933 |
| 234 | OR4Nn | 0 | 14 | 0.08 | LHGGGAGHIQLMNSMTL | 57 | M | AC019272.4 | 62255 ... 61317 |
| 235 | OR4Cn | 0 | 11 | 51.09 | LHGGIGGHIQFVNSMCA | 65 | M | AF102522.1 | 40 ... 660 |
| 236 | OR4KnP | 4 | 14 | 0.08 | IHAGMGTHSQFMDSMGT | 51 | M | AF259072.1 | 104176 ... 105099 |
| 237 | ORnP | 8 | 11 | 137.59 | AIAITVVVAHAAAGVVA | 35 | M | AC069559.8 | 73704 ... 74636 |
| 238 | OR5D3 | 0 | 11 | 51.15 | FCVVTAWCTYFISANES | 46 | R | U50948.1 | 34 ... 978 |
| 239 | OR2G1P | 6 | 6 | 33.53 | LLGSCVSNIQVLASLLL | 84 | M | AL359352.1 | 85325 ... 86251 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 240 | OR4Kn | 0 | 14 | 0.08 | IHTGMIVHSQFINSLSS | 51 | M | AF259072.1 | 104176 ... 105099 |
| 241 | OR8BnP | 2 | 11 | 137.59 | LCVFSGMGAHNVIVGIV | 68 | M | AC069559.8 | 120212 ... 119283 |
| 242 | OR2B2 | 0 | 6 | 31.47 | LLGSCASNLQWLISFLI | 89 | R | L34074.1 | 73 ... 1011 |
| 243 | OR7EnP | 3 | 2 | 73.87 | MVACDVLDLRIIDSFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 244 | OR4KnP | 3 | 14 | 0.08 | IHTGIVVHSQFMTSIAI | 57 | M | AB030896.1 | 1 ... 906 |
| 245 | OR2AD1P | 6 | 6 | 33.87 | FLGACTSSIVLVFGFLV | 51 | M | AL136158.14 | 162423 ... 161461 |
| 246 | OR1AAnP | 8 | X | 140.17 | MIVDNTIVLHLIIGVII | 48 | M | AC068902.11 | 144125 ... 143193 |
| 247 | OR1E3P | 1 | 17 | 2.99 | MLGVSLLHLHLMMGILI | 74 | R | M64392.1 | 1 ... 942 |
| 248 | OR8BnP | 3 | 11 | 137.59 | FCVFSGMGAHNIVVGIV | 63 | M | AC069561.10 | 96653 ... 95690 |
| 249 | OR5Hn | 0 | 3 | 104.18 | FAGTCFGHIHLVLSIQF | 55 | R | AF091575.1 | 52 ... 663 |
| 250 | OR1G1 | 0 | 17 | 2.99 | LMVMAAMHLHLITGTGI | 56 | R | M64392.1 | 1 ... 942 |
| 251 | OR5HnP | 2 | 3 | 104.18 | FAVTCGGHIHFVFSIQF | 46 | M | AC068904.15 | 165039 ... 165965 |
| 252 | ORnP | 5 | X | 140.17 | MLVTCSHHFLSFTGIWS | 36 | R | U50948.1 | 34 ... 978 |
| 253 | ORnP | 11 | X | 140.17 | LIVTFAKITTTQDHHHH | 29 | M | AC069561.10 | 127636 ... 126698 |
| 254 | OR4PnP | 2 | 11 | 51.09 | LHGDIAGHSQLVNSISL | 51 | M | AB030895.1 | 1 ... 924 |
| 255 | OR13Hn | 0 | X | 140.17 | TLATCTTVAMLITSTLL | 47 | M | AJ251154.1 | 35662 ... 36615 |
| 256 | OR7D1P | 5 | 19 | 11.38 | VMAGTAIFVHLLATLGF | 64 | R | AF091580.1 | 7 ... 663 |
| 257 | OR4KnP | 2 | 18 | 47.77 | IHNGIVVHSQFMTSIAI | 55 | M | AB030896.1 | 1 ... 906 |
| 258 | OR7E24 | 1 | 19 | 11.38 | MVACDLIDLHIIMGFGL | 60 | R | AF091580.1 | 7 ... 663 |
| 259 | OR51NnP | 2 | 11 | 3.6 | LHGFSARSPSLGVLVTV | 49 | R | AF079864.1 | 632 ... 1576 |
| 260 | OR7E18P | 6 | 19 | 11.38 | VAGCDLLDLHIMLAFGL | 59 | M | AF102536.1 | 22 ... 669 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 261 | OR7E19P | 2 | 19 | 11.38 | MYVCDVLNLHIMDSFGL | 58 | M | AF073989.1 | 547 ... 1515 |
| 262 | OR7E41P | 7 | 11 | 14.36 | IVVCDMLDLHIHSTFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 263 | OR2R1 | 3 | 7 | 148.69 | LLGGFVVNMELISSVLV | 77 | M | AF073974.1 | 41 ... 649 |
| 264 | OR10ACnP | 7 | 7 | 148.69 | MVGGCGRVGLLLACLLL | 46 | M | AC073778.1 | 168744 ... 167803 |
| 265 | OR51Ln | 0 | 11 | 3.79 | LHTFSARVPTLGVVTLV | 54 | R | AF079864.1 | 632 ... 1576 |
| 266 | OR52JnP | 3 | 11 | 3.79 | MHTGSSRLPILGVALDA | 57 | M | AF121979.1 | 53 ... 1106 |
| 267 | OR9LnP | 9 | 8 | 45.22 | TVVNNFFFFFFIFDLIA | 37 | M | AC069561.10 | 147203 ... 146274 |
| 268 | OR51PnP | 4 | 11 | 3.79 | MHSISARLPALGVVSML | 48 | M | AF071080.2 | 2641 ... 1697 |
| 269 | OR5HnP | 4 | 3 | 104.18 | FAVTCLGHIHFFFSIQL | 50 | R | AF091575.1 | 52 ... 663 |
| 270 | OR51An | 0 | 11 | 3.79 | EHSVSVKLPFTYFGCLV | 48 | R | AF079864.1 | 632 ... 1576 |
| 271 | OR5HnP | 6 | 3 | 104.18 | FAVTCLGHIHFVFSIQF | 46 | M | AC068904.15 | 165039 ... 165965 |
| 272 | ORnP | 11 | 17 | 17.43 | LLPCILSIIALYYYYYY | 27 | M | AL359352.1 | 9138 ... 8177 |
| 273 | OR52En | 0 | 11 | 3.79 | MHTGSARFPFFYCAILF | 57 | M | AF121979.1 | 53 ... 1106 |
| 274 | OR5Hn | 0 | 3 | 104.18 | FVVTCLGHIHFVFAVQF | 53 | R | AF091575.1 | 52 ... 663 |
| 275 | OR4CnP | 3 | 11 | 50.21 | VHRGVVGHIQFVNSICL | 73 | M | AF102522.1 | 40 ... 660 |
| 276 | OR52En | 0 | 11 | 3.79 | MHTLSGRFPSLYCANLF | 60 | M | AF121979.1 | 53 ... 1106 |
| 277 | OR10Dn | 0 | 11 | 138 | LHGCCGIHILLGNVLSI | 86 | M | AC074177.4 | 12106 ... 13038 |
| 278 | OR5HnP | 2 | 3 | 104.18 | FVVTCLGHIHFVFAIQF | 54 | R | AF091575.1 | 52 ... 663 |
| 279 | OR13An | 0 | 10 | 47.91 | LTASLALNIHLIADYGV | 67 | M | AF102520.1 | 16 ... 669 |
| 280 | OR5HnP | 2 | 3 | 104.18 | FGGTCLGHIHILLSIQF | 57 | R | AF091575.1 | 52 ... 663 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 281 | OR5Kn | 0 | 3 | 104.47 | FCETCGAHIHLLFSVQF | 45 | M | AC069559.8 | 36251 ... 35322 |
| 282 | OR7EnP | 9 | 21 | 17.99 | MAGGELFHLQIMPAFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 283 | OR4DnP | 6 | 8 | 77.48 | IHGGVAGHVQVMNSLVI | 87 | M | AC019272.4 | 62255 ... 61317 |
| 284 | OR2ARnP | 0 | 3 | 30.89 | MLGSC............ | 71 | M | AJ251154.1 | 56533 ... 57369 |
| 285 | OR7E29P | 4 | 3 | 136.03 | MAGGELLDLHIMPAFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 286 | OR4CnP | 3 | 11 | 51.12 | AHGAIVGHIQFVNSICL | 74 | M | AF102522.1 | 40 ... 660 |
| 287 | OR5PnP | 2 | 11 | 6.93 | LVGTCVGNTFCPSSIIV | 74 | M | AF121977.1 | 262 ... 1197 |
| 288 | OR7EnP | 5 | 3 | 136.04 | MVACGVLDLHIIGSFGL | 52 | R | AF091580.1 | 7 ... 663 |
| 289 | OR56An | 0 | 11 | 4.73 | MNLPSFRLPILQAGLLS | 41 | M | AF121975.1 | 50 ... 1012 |
| 290 | OR56AnP | 9 | 11 | 4.73 | KNQAFFRMPILQGGLLS | 73 | M | AF121981.1 | 89 ... 475 |
| 291 | OR5Pn | 0 | 11 | 6.89 | LAATCVAISYSLSSIIV | 63 | M | AF121977.1 | 262 ... 1197 |
| 292 | OR7E53P | 5 | 3 | 136.04 | MAGGEFPDLHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 293 | OR5Pn | 0 | 11 | 6.89 | LVGTCMGNTFCPSSIIA | 83 | M | AF121977.1 | 262 ... 1197 |
| 294 | OR52Ln | 0 | 11 | 4.73 | MHSSSVRLPFLGMAVIL | 59 | M | AF121976.2 | 474 ... 1307 |
| 295 | OR5E1 | 3 | 11 | 6.89 | LGATXGYNIQLLFSNLG | 51 | R | U50948.1 | 34 ... 978 |
| 296 | OR56AnP | 3 | 11 | 4.73 | MNLASFRMAILPPPPPP | 39 | M | AF121976.2 | 474 ... 1307 |
| 297 | OR4KnP | 2 | 8 | 88.25 | IHTGMIVHSQFIDS... | 57 | M | AB030896.1 | 1 ... 906 |
| 298 | OR52Ln | 0 | 11 | 4.73 | MHSSSVRLPFLGVAVVL | 59 | M | AF121976.2 | 474 ... 1307 |
| 299 | OR7EnP | 1 | 4 | 74.82 | MVF.............. | 55 | R | AF091580.1 | 7 ... 663 |
| 300 | OR52XnP | 5 | 11 | 4.73 | MHSASLXLSFLAVALGG | 51 | M | AF121976.2 | 474 ... 1307 |
| 301 | ORnP | 13 | 4 | 74.82 | STGCKGRKXLKLVRDFQ | 24 | R | M64386.1 | 130 ... 975 |
| 302 | OR56An | 0 | 11 | 4.73 | MNLTSFRVPVLQAGLLS | 84 | M | AF121981.1 | 89 ... 475 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 303 | OR56AnP | 10 | 11 | 4.73 | LI...GMMXNL...KKK | 60 | M | AF121981.1 | 89 ... 475 |
| 304 | OR1R1P | 5 | 17 | 3 | MVGISAVHLHLIEGVVA | 48 | M | AF073967.1 | 2 ... 649 |
| 305 | OR52EnP | 2 | 11 | 3.79 | MHTGSGRSPFLYGAILF | 64 | M | AF121979.1 | 53 ... 1106 |
| 306 | OR51AnP | 4 | 11 | 3.7 | EHTVALKLPLLGAGSTL | 46 | R | AF079864.1 | 632 ... 1576 |
| 307 | OR51An | 0 | 11 | 3.7 | EHSVSVKLPFTYFGCLV | 48 | R | AF079864.1 | 632 ... 1576 |
| 308 | OR4CnP | 1 | 11 | 51.12 | VHGGVVGHVQFVNSICL | 75 | M | AF102522.1 | 40 ... 660 |
| 309 | OR52JnP | 9 | 11 | 3.79 | MHTGACRFPILGVVYLN | 58 | M | AF121979.1 | 53 ... 1106 |
| 310 | OR4RnP | 9 | 11 | 51.12 | .....GGGVXSVNGNYL | 66 | M | AF102522.1 | 40 ... 660 |
| 311 | OR52Jn | 0 | 11 | 3.79 | MHTGACRLPMLGVVFVN | 58 | M | AF121976.2 | 474 ... 1307 |
| 312 | OR4CnP | 3 | 11 | 51.12 | VHGGGVGHIQFINSICL | 76 | M | AF102522.1 | 40 ... 660 |
| 313 | OR51AnP | 2 | 11 | 3.79 | EHSASAKLPFTYFVTGL | 83 | M | AF121985.1 | 2 ... 478 |
| 314 | OR7EnP | 15 | 12 | 93.55 | IVVCDLLDLHIHSTFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 315 | OR5MnP | 2 | 11 | 52.17 | CIVLHVYLMERMVASNQ | 54 | M | AF102528.1 | 52 ... 669 |
| 316 | OR10ABnP | 1 | 11 | 6.93 | MLASCAVFCITILSVLG | 47 | M | AC073778.1 | 168744 ... 167803 |
| 317 | OR52SnP | 2 | 11 | 3.79 | MHSTSARLPHLSVATGV | 54 | M | AF121976.2 | 474 ... 1307 |
| 318 | OR5Mn | 0 | 11 | 52.14 | CIVHIFYTAAWMLANFY | 49 | R | AF091579.1 | 7 ... 663 |
| 319 | OR10Sn | 0 | 11 | 138.1 | LHASCIIHIHLMSIVAG | 61 | M | AF259072.1 | 32953 ... 32000 |
| 320 | OR5MnP | 4 | 11 | 52.14 | CIVHIFYTTAWMLANFY | 48 | R | AF091579.1 | 7 ... 663 |
| 321 | OR10Gn | 0 | 11 | 138.1 | LHGSCGSHVQLIDIVAG | 61 | M | AF259072.1 | 55611 ... 54658 |
| 322 | ORnP | 20 | 11 | 29.15 | ILGIYEGSAHYFIILFL | 33 | M | AL365337.1 | 192661 ... 191711 |
| 323 | OR5MnP | 2 | 11 | 52.19 | CIVIYGYSMEWMVANLS | 54 | M | AF102528.1 | 52 ... 669 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 324 | OR10GnP | 10 | 11 | 138.1 | LYGSCWGHLPIYVIKFT | 30 | M | L14567.1 | 17 ... 667 |
| 325 | OR10TnP | 1 | 1 | 154.34 | LVACCACTIVLILSVLV | 57 | M | X92969.1 | 8035 ... 8961 |
| 326 | ORnP | 16 | 11 | 52.17 | LAAPLLLVFVLAAAAAA | 33 | R | M64376.1 | 1 ... 999 |
| 327 | OR10RnP | 11 | 1 | 154.5 | MLAVFTICVFLIGGALV | 47 | M | AC023611.2 | 108224 ... 107271 |
| 328 | OR5MnP | 2 | 11 | 52.16 | CIVHLVYTMEWMVANFY | 49 | R | AF091579.1 | 7 ... 663 |
| 329 | OR7EnP | 4 | 8 | 6.68 | MLACGVLDLHIIDSFGL | 55 | M | AF102536.1 | 22 ... 669 |
| 330 | OR10Tn | 0 | 1 | 154.27 | LLACCLTIVALLLSVIV | 58 | M | AC012302.5 | 54283 ... 55224 |
| 331 | OR1E1 | 0 | 17 | 3.04 | MLGDSLLHLHLIMGILI | 83 | R | Y07557.1 | 1 ... 942 |
| 332 | OR5BKnP | 4 | 12 | 42.11 | STGGAIAIMDFLSQWGL | 46 | M | AF073965.1 | 2 ... 643 |
| 333 | OR5MnP | 3 | 11 | 52.17 | CIVHIVYTMEWMVANLF | 48 | R | AF091579.1 | 7 ... 663 |
| 334 | OR3A3 | 0 | 17 | 3.06 | LHAGCACNTHALAAMAA | 49 | M | AF073967.1 | 2 ... 649 |
| 335 | OR10ADnP | 1 | 12 | 42.11 | TFGVCTFNFLIIDAVIS | 44 | M | AF247657.1 | 1 ... 945 |
| 336 | OR10Rn | 0 | 1 | 154.5 | MLAICAGATVLICGVLV | 56 | M | AC073778.1 | 168744 ... 167803 |
| 337 | OR5TnP | 4 | 11 | 51.94 | MCGTCAAHIHAFFVIEV | 51 | M | AF121977.1 | 262 ... 1197 |
| 338 | OR4GnP | 15 | 7 | 0.23 | ICRKMAVHSQFVNSISA | 42 | M | AB030892.1 | 1 ... 939 |
| 339 | OR6Yn | 0 | 1 | 154.5 | LVVCYGCTIKFDLAVII | 61 | M | NM_010983.1 | 178 ... 975 |
| 340 | OR1E2 | 0 | 17 | 3.15 | MLSDSLLHLHLIMGILI | 80 | R | Y07557.1 | 1 ... 942 |
| 341 | OR8Hn | 0 | 11 | 51.94 | MVGACGINVNWILATLV | 51 | M | NM_013728.1 | 1 ... 948 |
| 342 | OR4Fn | 0 | 7 | 0.23 | IHGGMVIHSQFVNSLTC | 50 | M | AC019272.4 | 62255 ... 61317 |
| 343 | OR10Kn | 0 | 1 | 154.27 | MLGCSACVIILILCVLI | 83 | M | AC073778.1 | 168744 ... 167803 |
| 344 | OR7LnP | 11 | X | 140.17 | MLGVCGHGTNLXFFFFI | 32 | M | AL133160.1 | 63932 ... 64759 |
| 345 | OR8InP | 7 | 11 | 51.94 | MVVCCMINVSVSLATLG | 44 | R | M64386.1 | 130 ... 975 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 346 | OR10RnP | 0 | 1 | 154.5 | MLAVCTSIVGFIFGVLV | 54 | M | AC073778.1 | 168744 ... 167803 |
| 347 | OR2AFnP | 11 | X | 140.17 | MLGTCGHVTLAGISTLL | 43 | R | L34074.1 | 73 ... 1011 |
| 348 | OR8Kn | 0 | 11 | 51.94 | LEIILVYVFLKIFSNLF | 55 | M | AF102528.1 | 52 ... 669 |
| 349 | ORnP | 7 | 10 | 127.57 | S.CCCLLTYIIHHHHHH | 31 | M | AC020958.1 | 164590 ... 163746 |
| 350 | OR8KnP | 10 | 11 | 51.94 | MIIILIYQMVKIFSNLF | 35 | M | AC073945.4 | 152209 ... 153150 |
| 351 | OR51Hn | 0 | 11 | 3.6 | MHGISSRVPVLGVVTLL | 49 | R | AF079864.1 | 632 ... 1576 |
| 352 | OR7EnP | 5 | 3 | 136.03 | MVACGVLDLHIIDSFGL | 51 | M | AF073989.1 | 547 ... 1515 |
| 353 | ORnP | 8 | 3 | 56.17 | LLLLFLIIEQH.....I | 32 | R | M64376.1 | 1 ... 999 |
| 354 | OR5BMnP | 20 | 3 | 103.93 | KXNKCTLSSSLMVFIQF | 30 | M | AF146372.1 | 509 ... 1456 |
| 355 | OR10GnP | 0 | 11 | 138.1 | LHGCCGGHFQFTDILAT | 63 | M | AF259072.1 | 55611 ... 54658 |
| 356 | OR2Yn | 0 | 5 | 209.23 | LLGSCAANIQLMARVVV | 74 | M | AC044846.2 | 139468 ... 138536 |
| 357 | OR10DnP | 1 | 11 | 138.1 | LHGCCGGHVLLSNVVAM | 66 | M | AC074177.4 | 128803 ... 129726 |
| 358 | OR3BnP | 7 | X | 158.48 | IHAPSILNTYLLSFVAA | 37 | M | AL136158.14 | 29455 ... 30402 |
| 359 | OR8Dn | 0 | 11 | 138.1 | LCVICAVDIHCIIGNMA | 62 | R | X80671.1 | 203 ... 1129 |
| 360 | OR5RnP | 0 | 11 | 52.13 | LLMICVYVFHIIFADMS | 68 | M | AF102528.1 | 52 ... 669 |
| 361 | OR10Gn | 0 | 11 | 138.1 | LHGSCGSHVQLINIVAG | 58 | M | AF259072.1 | 55611 ... 54658 |
| 362 | OR5BDnP | 12 | 11 | 53.74 | MTGTCVVIHRALSSITP | 39 | M | NM_013728.1 | 1 ... 948 |
| 363 | OR5ALnP | 1 | 11 | 52.13 | VIVVLSYVVQALIANTC | 52 | M | AC073947.3 | 29192 ... 30115 |
| 364 | OR52HnP | 3 | 11 | 4.15 | LHFVSGRVPCLGVPTVT | 59 | M | AF121975.1 | 50 ... 1012 |
| 365 | OR10Gn | 0 | 11 | 138.1 | LHGGCSSHVQLITVVAG | 56 | M | AF259072.1 | 55611 ... 54658 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 366 | OR5Mn | 0 | 11 | 52.17 | CIVHIVYTMEWMVANLF | 52 | M | AF146372.1 | 509 ... 1456 |
| 367 | OR51Mn | 0 | 11 | 4.15 | MHSFSIRAPILGVVTVL | 50 | M | NM_013617.1 | 1 ... 921 |
| 368 | OR6Tn | 0 | 11 | 138.1 | SFGTFAAWCPLALSVLG | 52 | M | NM_010991.1 | 1 ... 939 |
| 369 | OR6DnP | 5 | 10 | | SLGSFVVLGLKALVVLT | 69 | R | AF034903.1 | 85 ... 1053 |
| 370 | OR4B1 | 0 | 11 | 45.36 | IHGVIGGHIQVVNSFSF | 62 | M | AF102522.1 | 40 ... 660 |
| 371 | OR5ALnP | 4 | 11 | 52.13 | VISVVGYMIQALIANVC | 50 | M | AF146372.1 | 509 ... 1456 |
| 372 | OR51Qn | 0 | 11 | 4.15 | FHSFSACAPSLGLAIIV | 49 | M | NM_013617.1 | 1 ... 921 |
| 373 | OR4Dn | 0 | 11 | 138.1 | LHGGIAGHVQLMNNVTM | 63 | M | AC019272.4 | 62255 ... 61317 |
| 374 | OR52Nn | 0 | 11 | 4.58 | MHTGSLRLPSLGVAIGF | 52 | M | NM_013619.1 | 118 ... 969 |
| 375 | OR4Xn | 0 | 11 | 45.36 | MHGGAIGHGQLINGISV | 58 | M | AB030896.1 | 1 ... 906 |
| 376 | OR8Jn | 0 | 11 | 52.03 | LLIVVLYTVVYVSANVG | 77 | M | X89682.1 | 2 ... 472 |
| 377 | OR51JnP | 2 | 11 | 4.15 | MHSMSIKLPLLGIVTFL | 46 | M | AF071080.2 | 15931 ... 16851 |
| 378 | OR10Gn | 0 | 11 | 138.1 | LHGSCSSHVQLIDIVAG | 60 | M | AF259072.1 | 55611 ... 54658 |
| 379 | OR52En | 0 | 11 | 4.58 | MHTGTVRLPFLGVIIID | 66 | M | AF121979.1 | 53 ... 1106 |
| 380 | OR4Xn | 0 | 11 | 45.36 | LHGGIIGHAQLINGLSI | 64 | M | AB030895.1 | 1 ... 924 |
| 381 | OR10A2 | 1 | 11 | 5.69 | MFGVCAPVVQWAGTVVI | 76 | M | AF247657.1 | 1 ... 945 |
| 382 | OR5Mn | 0 | 11 | 52.14 | CIVHVVYVICWMIANFY | 49 | R | AF091579.1 | 7 ... 663 |
| 383 | OR52En | 0 | 11 | 4.58 | MHTGSVRFPFLISVVGI | 59 | M | AF121979.1 | 53 ... 1106 |
| 384 | OR8Kn | 0 | 11 | 51.94 | LLIGLIYILVKIFADLS | 53 | M | AF146372.1 | 509 ... 1456 |
| 385 | OR10An | 0 | 11 | 5.66 | MFGACASVVQWAATFIF | 89 | M | AF247657.1 | 1 ... 945 |
| 386 | OR8LnP | 3 | 11 | 52.13 | LIVVMSYVLQLLLANTF | 51 | M | AF102528.1 | 52 ... 669 |
| 387 | OR5BPnP | 8 | 11 | 52.82 | VVVVVGGSIVPPVGLHL | 43 | R | U50948.1 | 34 ... 978 |
| 388 | OR52Nn | 0 | 11 | 4.58 | MHTGSARLPFLGVAIGF | 54 | M | AF121976.2 | 474 ... 1307 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 389 | ORnP | 7 | 11 | 45.36 | WWWWWIALLR.AAAAAK | 28 | M | X89686.1 | 32 ... 472 |
| 390 | OR8JnP | 1 | 11 | 51.94 | LLIVILQTTVCVFSNLF | 99 | M | X89682.1 | 2 ... 472 |
| 391 | OR5Mn | 0 | 11 | 52.24 | CIVIFVYNSQLMVATLS | 50 | R | AF091579.1 | 7 ... 663 |
| 392 | OR52En | 0 | 11 | 4.58 | MHTVSIRMPLLGSILLL | 66 | M | AF121979.1 | 53 ... 1106 |
| 393 | OR5Tn | 0 | 11 | 51.94 | VCGTCAAHIHALFVIEV | 52 | M | AF146372.1 | 509 ... 1456 |
| 394 | OR52NnP | 5 | 11 | 4.58 | MHTGSVQLPFLGAAIGF | 51 | M | NM_013619.1 | 118 ... 969 |
| 395 | OR4B2P | 6 | 11 | 45.36 | IFGIIGRHVQVVNSELS | 53 | M | AB030896.1 | 1 ... 906 |
| 396 | OR51KnP | 6 | 11 | 4.15 | MHSCSGKLPLLGIVNFL | 51 | M | NM_013617.1 | 1 ... 921 |
| 397 | OR52QnP | 10 | 11 | 4.58 | MYTGSVRFPFLFVAVGI | 45 | M | AF121979.1 | 53 ... 1106 |
| 398 | OR4Fn | 0 | 15 | 86.21 | IHGGMIIHIQFVNSISA | 50 | M | AF102522.1 | 40 ... 660 |
| 399 | OR11MnP | 1 | 12 | 41.92 | FSAACGSSFTL...... | 48 | M | AL359381.1 | 175785 ... 176720 |
| 400 | OR52Nn | 0 | 11 | 4.44 | MHTGSARLPFLGVAIGF | 57 | M | NM_013619.1 | 118 ... 969 |
| 401 | OR56An | 0 | 11 | 4.58 | MNLASFRMPILQGGLLS | 73 | M | AF121981.1 | 89 ... 475 |
| 402 | OR5AWnP | 14 | X | | LXADFTSNLPTTSSNVV | 39 | R | X80671.1 | 203 ... 1129 |
| 403 | OR52Nn | 0 | 11 | 4.51 | MHTGSARLPFLGVAIGF | 55 | M | AF121976.2 | 474 ... 1307 |
| 404 | ORnP | 15 | X | | ISCIFELTLPLPSNVNV | 31 | M | AC073947.3 | 29192 ... 30115 |
| 405 | OR52EnP | 6 | 11 | 4.58 | VHSVSVRMPILGNIILL | 62 | M | AF121979.1 | 53 ... 1106 |
| 406 | OR5BHnP | 9 | X | | MVASCGGKTVSLCGTLT | 40 | M | NM_013728.1 | 1 ... 948 |
| 407 | OR4QnP | 1 | 15 | 1.66 | IHGAMAGHMQLMNSLSV | 60 | M | AC019272.4 | 62255 ... 61317 |
| 408 | OR51En | 0 | 11 | 3.04 | MHSGSARLPLFGVIAIL | 60 | R | AF079864.1 | 632 ... 1576 |
| 409 | OR11KnP | 2 | 15 | 1.66 | FSGYGFCITLLITFVFI | 53 | M | AF121972.1 | 171 ... 1109 |
| 410 | OR12D1P | 1 | 6 | 33.02 | LHGSATIHLHMSTGIAG | 76 | M | AL133159.4 | 16108 ... 15185 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 411 | OR4NnP | 3 | 15 | 1.61 | LHGGGAGHIQLMNSMTM | 55 | M | AC019272.4 | 62255 ... 61317 |
| 412 | OR11A1 | 0 | 6 | 33.02 | FGATCTSVLVLTLSCLI | 76 | M | AL359381.1 | 175785 ... 176720 |
| 413 | OR10C1 | 0 | 6 | 33.02 | MLGACSCVGHFIATLIC | 59 | M | AL365336.1 | 122764 ... 121784 |
| 414 | OR2H1 | 0 | 6 | 33.02 | LLGTCVMQVQSLSSFVV | 88 | M | AL078630.1 | 48786 ... 47851 |
| 415 | OR9RnP | 8 | 12 | 59.71 | LAVGGGCNIQFLLSITT | 54 | R | AF091579.1 | 7 ... 663 |
| 416 | OR4FnP | 0 | 7 | 0.53 | .....VLHFQFVNSICG | 50 | M | AB030896.1 | 1 ... 906 |
| 417 | OR7D4 | 3 | 19 | 11.31 | VMAGTAIFVHLLATLGF | 67 | R | AF091580.1 | 7 ... 663 |
| 418 | OR7E25P | 3 | 19 | 11.31 | MIACSVLDLHIVIGFGL | 61 | R | AF091580.1 | 7 ... 663 |
| 419 | OR2D2 | 0 | 11 | 5.69 | LLGCCGSVVDFITGILI | 65 | M | AF073987.1 | 2 ... 649 |
| 420 | OR10An | 0 | 11 | 5.69 | MFGVCAPVVQWAGTVVI | 76 | M | AF247657.1 | 1 ... 945 |
| 421 | OR2WnP | 3 | 1 | 254.49 | LLGGCVCQGHWVLAVVS | 54 | R | L34074.1 | 73 ... 1011 |
| 422 | OR7E16P | 8 | 19 | 11.31 | IAGCDLLDLHIMLALGL | 60 | M | AF102536.1 | 22 ... 669 |
| 423 | OR52Pn | 0 | 11 | 4.44 | MHCMSARLPCLGAAVIV | 59 | M | AF121976.2 | 474 ... 1307 |
| 424 | OR6AnP | 4 | 11 | 5.66 | LLGCCGGIVKLDLAILG | 94 | R | M64386.1 | 130 ... 975 |
| 425 | OR7D2 | 0 | 19 | 11.24 | VMPITVITLHLIMTLGF | 61 | R | AF091580.1 | 7 ... 663 |
| 426 | OR52UnP | 3 | 11 | 4.44 | LHSASVRFPMLGVAVAY | 52 | M | AF121976.2 | 474 ... 1307 |
| 427 | OR2AGn | 0 | 11 | 5.6 | MLGGDTLSIYYVMGFLP | 55 | M | AF102527.1 | 22 ... 669 |
| 428 | OR7G3 | 0 | 19 | 11.24 | ILVGNLVDLHMVVTLGV | 64 | R | AF091580.1 | 7 ... 663 |
| 429 | OR56BnP | 3 | 11 | 4.44 | IHVGSFRFPVLQLAGMS | 41 | M | AF133300.1 | 25713 ... 26573 |
| 430 | OR2AGnP | 1 | 11 | 5.51 | MLGSDTLIGHYITGFLL | 55 | M | AF102527.1 | 22 ... 669 |
| 431 | OR56Bn | 0 | 11 | 4.44 | MHVASFRCSVLQLALMS | 39 | M | NM_013619.1 | 118 ... 969 |
| 432 | OR6AnP | 5 | 11 | 5.51 | LLGCCGGIVKLDLAILG | 93 | R | M64386.1 | 130 ... 975 |
| 433 | OR4FnP | 4 | 19 | 63.23 | IHGGMVLHFQFVNSICG | 49 | M | AB030896.1 | 1 ... 906 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 434 | OR6Wn | 0 | 7 | 148.04 | SFGSFAVSSPQDLSFVT | 47 | M | NM_010991.1 | 1 ... 939 |
| 435 | OR4Mn | 0 | 15 | 1.59 | LHGAMLGHIQLMSSISV | 52 | M | AF259072.1 | 104176 ... 105099 |
| 436 | OR52YnP | 13 | 11 | 3.6 | VVVVVLQWPVMGMAVDF | 29 | M | AF133300.1 | 46551 ... 47498 |
| 437 | OR11HnP | 2 | 15 | 1.78 | FFGTCLCWIPLCLSVIG | 61 | M | AF121972.1 | 171 ... 1109 |
| 438 | OR9An | 0 | 7 | 148.04 | LSGTFVFSWPALMAILG | 46 | M | NM_010991.1 | 1 ... 939 |
| 439 | OR5Mn | 0 | 11 | 52.19 | CILLFFYDFQLMSANLS | 50 | M | AC069563.9 | 129775 ... 130725 |
| 440 | OR6Vn | 0 | 7 | 148.04 | FFGSFAAAPTSDMAFVS | 45 | M | NM_010991.1 | 1 ... 939 |
| 441 | OR4Nn | 0 | 15 | 1.61 | LHGGGAGHIQLMNSMTL | 53 | M | AC019272.4 | 62255 ... 61317 |
| 442 | OR51AnP | 4 | 11 | 3.6 | EHTDSLILPFTGLACMS | 43 | M | NM_013617.1 | 1 ... 921 |
| 443 | OR9PnP | 10 | 7 | 148.04 | FGSNSFEHLVFIHSLLM | 39 | M | NM_010983.1 | 178 ... 975 |
| 444 | OR4H6P | 3 | 15 | 1.66 | MHGCILGHVQLVNSISG | 59 | M | AF259072.1 | 104176 ... 105099 |
| 445 | OR51FnP | 2 | 11 | 3.6 | MHTFSLRLPLLGDLTTI | 48 | R | AF079864.1 | 632 ... 1576 |
| 446 | OR7E1P | 3 | 11 | 68.1 | MVACGVLDLHIIDSFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 447 | OR51Tn | 0 | 11 | 3.6 | MHSLSVRFPLAGLQLNT | 44 | R | AF079864.1 | 632 ... 1576 |
| 448 | OR2Vn | 0 | 13 | 104.15 | IVVGGSFDIQVICCMLF | 84 | M | AF102535.1 | 16 ... 669 |
| 449 | OR51HnP | 7 | 11 | 3.6 | MHGGSARAPVLGAVIIL | 51 | R | AF079864.1 | 632 ... 1576 |
| 450 | OR51An | 0 | 11 | 3.6 | EHTVSIRLPFTGIACTL | 48 | M | AF071080.2 | 26330 ... 27262 |
| 451 | OR2AInP | 2 | 5 | 209.13 | YLGSCLSNFHLMARILL | 55 | M | AC044846.2 | 112743 ... 113748 |
| 452 | OR2F2 | 0 | 7 | 148.74 | LLGGFTSNVQIISSLLT | 54 | M | AF073974.1 | 41 ... 649 |
| 453 | OR1F12 | 0 | 6 | 31.61 | MMANNAINLHMVTVIFV | 58 | M | AC023167.7 | 60743 ... 61663 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 454 | OR7G1P | 0 | 19 | 11.24 | ILAGSLMDVQMIASFGI | 60 | R | AF091580.1 | 7 ... 663 |
| 455 | OR7G2 | 0 | 19 | 11.24 | ILAGNLTNLLMIAAFGV | 61 | R | AF091580.1 | 7 ... 663 |
| 456 | OR1M1 | 0 | 19 | 11.24 | MHGISAFITHLIVAVIT | 89 | M | X89689.1 | 32 ... 472 |
| 457 | OR51UnP | 1 | 11 | 2.89 | VTDDN............ | 48 | R | AF079864.1 | 632 ... 1576 |
| 458 | OR52Hn | 0 | 11 | 4.19 | MHFVSGRIPDLGVPTVS | 59 | M | AF121975.1 | 50 ... 1012 |
| 459 | OR1F1 | 0 | 16 | 6.15 | MFVDNGVNLHLIEGVMT | 75 | R | M64377.1 | 1 ... 939 |
| 460 | OR10PnP | 0 | 16 | 87.09 | MIGICTTTTHLVATFII | 48 | M | AF247657.1 | 1 ... 945 |
| 461 | OR4FnP | 4 | 19 | 7.9 | IHGGMVLHFQFVNSICG | 49 | M | AB030896.1 | 1 ... 906 |
| 462 | OR2T1 | 0 | 1 | 254.77 | HLVGFGGDLLIMCCMLI | 92 | M | AF102527.1 | 22 ... 669 |
| 463 | OR7EnP | 9 | 19 | 22.8 | VAGCDLLDLHIMLAFGL | 60 | M | AF102536.1 | 22 ... 669 |
| 464 | OR51Gn | 0 | 11 | 3.6 | LHSFSVRLPLMGVITVI | 57 | M | NM_013617.1 | 1 ... 921 |
| 465 | OR2Tn | 0 | 1 | 254.77 | MVAGFGLDTFIMCCMLI | 67 | M | AF102527.1 | 22 ... 669 |
| 466 | OR5BGnP | 2 | 11 | 51.27 | AAAAAGGSIHNLFAVEI | 52 | R | U50948.1 | 34 ... 978 |
| 467 | OR5WnP | 3 | 11 | 51.27 | MGADCLVDIHCMFVVAC | 51 | M | AF146372.1 | 509 ... 1456 |
| 468 | OR51Sn | 0 | 11 | 3.6 | MHSVSARLPLLLVLMGD | 42 | M | AF071080.2 | 26330 ... 27262 |
| 469 | OR5WnP | 1 | 11 | 51.27 | ...........LVFIES | 55 | M | AC074177.4 | 107189 ... 107708 |
| 470 | OR51AnP | 3 | 11 | 3.6 | EHTDSLILLPTGVAMMD | 46 | M | NM_013617.1 | 1 ... 921 |
| 471 | OR5Dn | 0 | 11 | 51.21 | FCGVTGWCILFCIANES | 46 | M | AF146372.1 | 509 ... 1456 |
| 472 | OR7EnP | 4 | 4 | 5.55 | MVACGVLDLHIIDSFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 473 | OR51Fn | 0 | 11 | 3.6 | MHTFSSRVPVFGALTTF | 53 | R | AF079864.1 | 632 ... 1576 |
| 474 | OR5Dn | 0 | 11 | 51.21 | YCVVSGWGVLYLFANEC | 48 | M | NM_013728.1 | 1 ... 948 |
| 475 | OR52Rn | 0 | 11 | 3.6 | VHSSSIRWPFMGVAVAF | 58 | M | AF121976.2 | 474 ... 1307 |
| 476 | ORnP | 27 | 11 | 51.21 | FCFAAGQSPGFLCFFFF | 23 | M | AB030893.1 | 37 ... 930 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 477 | OR7EnP | 6 | 3 | 121.47 | MVACDVLDLHIIDSFSL | 57 | M | AF073989.1 | 547 ... 1515 |
| 478 | OR6Qn | 0 | 11 | 54.04 | LTGACAVTLPLDVSVLA | 52 | M | NM_010983.1 | 178 ... 975 |
| 479 | OR4Fn | 0 | 6 | 185.89 | IHGGMVLHFQFVNSICG | 51 | M | AB030896.1 | 1 ... 906 |
| 480 | OR7EnP | 3 | 13 | 40.31 | FFSP.AAALHIMPAFGL | 65 | M | X89686.1 | 32 ... 472 |
| 481 | OR7En | 0 | 2 | 95.17 | MVACDVLDLHIIDSFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 482 | OR4Nn | 0 | 14 | 0.27 | LHGAMVGHVQLMNSLSL | 58 | M | AC019272.4 | 62255 ... 61317 |
| 483 | OR2ASnP | 7 | 1 | 254.77 | .....GGGGGMICGLLP | 43 | M | AF102535.1 | 16 ... 669 |
| 484 | OR11Hn | 0 | 14 | 0.33 | FFGTCFIGIPYFQSVLF | 90 | M | AF121972.1 | 171 ... 1109 |
| 485 | OR2Tn | 0 | 1 | 254.77 | MLAGFGLDMLIMCCMLI | 69 | M | AF102527.1 | 22 ... 669 |
| 486 | OR2TnP | 1 | 1 | 254.77 | CMMGFSGDLLIMCCMLI | 77 | M | AF102527.1 | 22 ... 669 |
| 487 | OR2AKnP | 3 | 1 | 254.55 | TLGGACSNIHYVSGILL | 50 | M | AF102533.1 | 16 ... 669 |
| 488 | ORnP | 16 | 12 | 4.38 | VLKSKCWQLPFYMPLLM | 25 | R | Y07557.1 | 1 ... 942 |
| 489 | OR5DnP | 4 | 11 | 51.21 | FCAVTGWSTLFCIANES | 48 | R | U50948.1 | 34 ... 978 |
| 490 | OR7EnP | 1 | 4 | 5.55 | FVACDVLDLHIIDNFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 491 | OR5L2 | 0 | 11 | 51.27 | FCGVVCCCIHLLVANEV | 53 | M | AF146372.1 | 509 ... 1456 |
| 492 | OR5Dn | 0 | 11 | 51.27 | FCVVLVWCTLSLVANES | 48 | M | NM_013728.1 | 1 ... 948 |
| 493 | ORnP | 4 | 9 | 81.99 | ..CCCLFFQSIASGTYI | 23 | M | AL359381.1 | 82137 ... 81544 |
| 494 | OR10Qn | 0 | 11 | 54.08 | MVGSCGLPQLLLVSVLI | 50 | M | AL365336.1 | 123248 ... 124093 |
| 495 | OR9MnP | 1 | 11 | 51.27 | LCVDSGGSIHNLFAVEI | 54 | M | AC069559.8 | 73704 ... 74636 |
| 496 | OR7E62P | 5 | 2 | 73.96 | MAACDVLDLHTIDSFRL | 56 | M | AF073989.1 | 547 ... 1515 |
| 497 | OR9LnP | 13 | 11 | 54.06 | MFVGCTLVAYGILTMIA | 32 | M | AC069561.10 | 147203 ... 146274 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 498 | OR7E46P | 10 | 2 | 73.96 | MAGVEFCDLHIMPAFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 499 | OR1S1 | 0 | 11 | 54.08 | MIVVNILITHLLVGVIF | 56 | M | AC073769.1 | 133488 ... 132556 |
| 500 | OR5DnP | 0 | 11 | 51.21 | FCVIMGWCTLSCISSEC | 45 | M | AC069563.9 | 111696 ... 112671 |
| 501 | OR9InP | 4 | 11 | 54.06 | FTASCGGNICCISAVIT | 46 | R | AF091579.1 | 7 ... 663 |
| 502 | OR5Dn | 0 | 11 | 51.21 | FCVVSGWCELSLLANES | 53 | M | AF146372.1 | 509 ... 1456 |
| 503 | OR9QnP | 4 | 11 | 54.08 | FTASCGASVRTIFAVMA | 47 | M | AL365337.1 | 192661 ... 191711 |
| 504 | OR51CnP | 0 | 11 | 3.04 | MKTVSARMPMLGAMTVV | 51 | R | AF079864.1 | 632 ... 1576 |
| 505 | OR5WnP | 1 | 11 | 51.27 | FCADCGVDIHL...... | 53 | M | AC069561.10 | 127636 ... 126698 |
| 506 | OR9InP | 2 | 11 | 54.06 | FTAGCSCGLHCICAMFA | 46 | M | AC074177.4 | 106297 ... 105361 |
| 507 | OR51AnP | 4 | 11 | 3.04 | MHSVSARVPVPGVVTGL | 72 | M | X89685.1 | 2 ... 481 |
| 508 | OR5L1 | 0 | 11 | 51.21 | FCVVVCCCIHLLVANEV | 55 | M | AF146372.1 | 509 ... 1456 |
| 509 | OR7EnP | 5 | 13 | 50.42 | .....VVDLHIMPAFGL | 66 | M | X89686.1 | 32 ... 472 |
| 510 | OR5BLnP | 18 | 11 | 54.08 | ILGNXLENQCFIFAMIT | 29 | R | M64392.1 | 1 ... 942 |
| 511 | OR51En | 0 | 11 | 3.04 | MHSASVRFPLLGAIVMV | 95 | R | AF079864.1 | 632 ... 1576 |
| 512 | OR51Dn | 0 | 11 | 3.04 | MHSASSRFPLIGIIVMV | 61 | R | AF079864.1 | 632 ... 1576 |
| 513 | OR52In | 0 | 11 | 3.04 | MHTATARFPLMSGSMVS | 46 | M | AF121975.1 | 50 ... 1012 |
| 514 | OR4KnP | 2 | 18 | 19.04 | IHTGMIVHSQFIDSLSS | 56 | M | AB030896.1 | 1 ... 906 |
| 515 | OR52In | 0 | 11 | 2.99 | MHTATARAPLMSGSMVS | 47 | M | AF121975.1 | 50 ... 1012 |
| 516 | OR4KnP | 2 | 18 | 19.04 | IHNGIVVHSQFMTSIAI | 55 | M | AB030896.1 | 1 ... 906 |
| 517 | OR52MnP | 1 | 11 | 3.04 | MHATSVRYLPIGIGVLL | 51 | R | AF079864.1 | 632 ... 1576 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 518 | ORnP | 7 | 6 | 31.58 | FLVSCLLLLLLLEGIHW | 30 | M | AF073964.1 | 41 ... 649 |
| 519 | ORnP | 9 | 8 | 88.25 | IXVVVLNIVNMTTIIFL | 24 | M | AC074177.4 | 149899 ... 148964 |
| 520 | ORnP | 9 | 10 | 70.63 | YSIVMFYHAHFICELLN | 26 | M | AC068902.1 1 | 144125 ... 143193 |
| 521 | ORnP | 9 | 9 | 70.7 | WWWWWSWYGNFDDSITX | 26 | R | AF091563.1 | 7 ... 669 |
| 522 | ORnP | 9 | 5 | 202.43 | FFFFF.PPPPP...... | 27 | R | AF034902.1 | 4197 ... 5177 |
| 523 | ORnP | 10 | 11 | 137.77 | LLLLWSQFXQFLAVVVV | 29 | R | M64376.1 | 1 ... 999 |
| 524 | ORnP | 3 | 11 | 16.31 | NNNNNLLXMNILTLLAI | 27 | M | AL136158.1 4 | 29455 ... 30402 |
| 525 | ORnP | 17 | 11 | 55.6 | LAGNNIYCYHM..LLLL | 26 | R | M64377.1 | 1 ... 939 |
| 526 | OR6Pn | 0 | 1 | 154.6 | LIACCASSMKFDLAMIL | 60 | M | NM_010983. 1 | 178 ... 975 |
| 527 | OR7EnP | 3 | 14 | 33.48 | MVACDVLDLHIIDSFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 528 | ORnP | 12 | 11 | 138.51 | LMCHS.FFFFFMMMMMM | 29 | R | AF091573.1 | 7 ... 663 |
| 529 | OR7EnP | 5 | 14 | 33.48 | MAGGDFLDLYILPDFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 530 | ORnP | 7 | 10 | 127.4 | S.CCCLLTYIIHHHHHH | 31 | M | AC020958.1 | 164590 ... 163746 |
| 531 | OR10Xn P | 2 | 1 | 154.6 | MLGGCSAITELIISGLG | 49 | M | AC073778.1 | 168744 ... 167803 |
| 532 | OR10Zn | 0 | 1 | 154.71 | MAACCTTFGMVILSVLV | 56 | M | AC025913.3 | 108128 ... 109067 |
| 533 | OR6KnP | 2 | 1 | 154.73 | MYGIVGCTPEWVVHEIT | 40 | R | M64386.1 | 130 ... 975 |
| 534 | OR6Kn | 0 | 1 | 154.73 | MHGIVSCTPEWVIHEIT | 44 | M | AC027184.3 | 54955 ... 54017 |
| 535 | OR1FnP | 1 | 4 | 97.57 | ...........IEGVMT | 73 | R | M64377.1 | 1 ... 939 |
| 536 | OR1ABn P | 3 | 19 | 19.44 | MIGISAFNTHLV..... | 64 | M | AC073769.1 | 133488 ... 132556 |
| 537 | OR52Mn P | 1 | 11 | 2.89 | MHATSARYLPIGIGVLL | 49 | M | AF121975.1 | 50 ... 1012 |
| 538 | OR1XnP | 6 | 5 | 202.43 | MIANTLGIVHIFAALFA | 71 | M | AF102530.1 | 1 ... 666 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 539 | OR4FnP | 8 | 16 | 83.04 | QQQQQVIHSQFVNSLTC | 46 | M | AC019272.4 | 62255 ... 61317 |
| 540 | OR52MnP | 5 | 11 | 2.89 | MHATSVRYLPIGIGVLM | 45 | R | AF079864.1 | 632 ... 1576 |
| 541 | OR2Vn | 0 | 5 | 209.61 | IVVGGSFDIQVICCMLF | 83 | M | AF102535.1 | 16 ... 669 |
| 542 | OR2V1P | 4 | 5 | 209.61 | IVVGGSFDIQALCCMLL | 90 | M | AF102537.1 | 16 ... 669 |
| 543 | OR2Zn | 0 | 19 | 65.55 | ITGVGSVNIQILSGILL | 76 | M | AC073769.1 | 54319 ... 55289 |
| 544 | OR52KnP | 5 | 11 | 2.89 | ...........AMFIEL | 52 | M | AF121975.1 | 50 ... 1012 |
| 545 | OR10Hn | 0 | 19 | 19.7 | MFGFSWGMMVIGLVTAI | 75 | M | AC023604.2 | 214343 ... 213396 |
| 546 | OR2Dn | 0 | 11 | 5.77 | ILGCCRSVVDFIMGILA | 85 | M | AF073987.1 | 2 ... 649 |
| 547 | OR7EnP | 6 | 2 | 161.49 | VVGGCSSDLHIMPAFGL | 64 | M | X89686.1 | 32 ... 472 |
| 548 | OR11GnP | 4 | 14 | 0.27 | FFGSCSLWIPVSLSLLI | 68 | M | AC027184.3 | 54955 ... 54017 |
| 549 | ORnP | 12 | 14 | 0.27 | GSCGNSLHHYLMVNIIL | 28 | M | AF121972.1 | 171 ... 1109 |
| 550 | OR11Gn | 0 | 14 | 0.33 | FFGSCNLWIPNFLSPVM | 67 | M | AF121972.1 | 171 ... 1109 |
| 551 | OR11HnP | 5 | 14 | 0.33 | FTGTAFFSVSQFLSIIL | 68 | M | AF121972.1 | 171 ... 1109 |
| 552 | OR6Kn | 0 | 1 | 154.73 | MHENGGFIPEMDHATII | 46 | R | AF034897.1 | 354 ... 1199 |
| 553 | OR11Hn | 0 | 14 | 0.33 | FFGTCVGCVPLCFNIIG | 71 | M | AF121972.1 | 171 ... 1109 |
| 554 | OR6KnP | 0 | 1 | 154.73 | MHGNGGFVPEWDHAAIF | 46 | M | AL365336.1 | 122764 ... 121784 |
| 555 | OR11HnP | 2 | 14 | 0.33 | FFGTCLIGISFFVSFIL | 70 | M | AF121972.1 | 171 ... 1109 |
| 556 | OR6KnP | 2 | 1 | 154.82 | MHGVAGFMPECDRASIT | 43 | M | AC027184.3 | 54955 ... 54017 |
| 557 | OR6Kn | 0 | 1 | 154.84 | MHGISGCLPEWVIHEIA | 45 | R | AF034900.1 | 1 ... 963 |
| 558 | OR2Ln | 0 | 1 | 254.55 | SSGGAGINAHYVSTFLF | 53 | M | AF102527.1 | 22 ... 669 |
| 559 | OR4GnP | 8 | 16 | 83.04 | ICRKMAVHSQFVNSISA | 45 | M | AB030892.1 | 1 ... 939 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 560 | OR6Nn | 0 | 1 | 154.84 | IHGACGGGVELDINKIA | 50 | R | M64386.1 | 130 ... 975 |
| 561 | OR2LnP | 2 | 1 | 254.55 | SLAVGGINAHY.....W | 52 | M | AF102535.1 | 16 ... 669 |
| 562 | OR9A1 | 0 | 7 | 146.91 | LLGTLVLSWPALMAIIG | 45 | M | L14567.1 | 17 ... 667 |
| 563 | OR6Nn | 0 | 1 | 155.69 | THGACACCSELDINIII | 51 | M | AL136158.1 4 | 29455 ... 30402 |
| 564 | OR10Hn | 0 | 19 | | MFGFSCGMVVAGLVTAL | 86 | M | AC023604.2 | 245345 ... 246298 |
| 565 | OR7EnP | 4 | 9 | 71.72 | MVACDVLDLHIMNSFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 566 | OR2AQn P | 5 | 1 | 155.69 | FCHSCLLLLSLLPFFFF | 31 | M | AL359352.1 | 55588 ... 56546 |
| 567 | OR2LnP | 3 | 1 | 254.55 | SMAGAGINAHYVSSFLF | 50 | M | AF102537.1 | 16 ... 669 |
| 568 | OR5ARn | 0 | 11 | 52.46 | FVVDCGASAHLLLCIES | 53 | R | AF091579.1 | 7 ... 663 |
| 569 | OR7EnP | 4 | 9 | 71.79 | TAGGETLDLHIMPAFGL | 57 | M | AF102536.1 | 22 ... 669 |
| 570 | OR10AA nP | 2 | 1 | 155.69 | THGMCAAAVPLHVIATC | 84 | M | AC005992.1 5 | 9114 ... 8173 |
| 571 | OR10Jn P | 4 | 1 | 157.7 | MIAICGVVVQSNVSVIV | 72 | M | X92969.1 | 8035 ... 8961 |
| 572 | OR5A1P | 0 | 11 | 55.81 | FVGLCGGSIQSNVVVGT | 81 | M | Y15525.1 | 1 ... 705 |
| 573 | OR2AHn P | 5 | 11 | 52.46 | MLGSCISSVILVFSIVI | 51 | M | AF247657.1 | 1 ... 945 |
| 574 | OR10Jn P | 4 | 1 | 157.7 | LLGICGIMVQSNVSVLL | 68 | M | X92969.1 | 8035 ... 8961 |
| 575 | OR56Bn P | 2 | 11 | 4.93 | IHMCSSRLPVLQLVVVS | 39 | M | AF121975.1 | 50 ... 1012 |
| 576 | OR5M1 | 0 | 11 | 52.35 | CIVIFIYSSQLMVANLS | 49 | R | AF091579.1 | 7 ... 663 |
| 577 | OR52Wn P | 0 | 11 | 4.93 | MHTASLLAVPLGLSISM | 48 | M | AF121976.2 | 474 ... 1307 |
| 578 | OR5AMn P | 5 | 11 | 52.35 | FIVIYAYNVQLMVANLC | 35 | M | AC068904.1 5 | 113793 ... 114719 |
| 579 | OR52Bn P | 3 | 11 | 4.93 | MHFVSTQTPVLGVPSVV | 89 | M | AF121975.1 | 50 ... 1012 |
| 580 | OR5MnP | 1 | 11 | 52.35 | CVLLYFWVMQLLSANLV | 48 | R | X80671.1 | 203 ... 1129 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 581 | OR5APnP | 6 | 11 | 52.35 | FGAGGALNIHFIFANES | 55 | R | X80671.1 | 203 ... 1129 |
| 582 | OR56Bn | 0 | 11 | 4.95 | IHFCSFRLPVLQLALVS | 41 | M | AF121975.1 | 50 ... 1012 |
| 583 | OR5APn | 0 | 11 | 52.35 | FGLGCTANIHMIFSIVS | 55 | M | AF121977.1 | 262 ... 1197 |
| 584 | OR52Bn | 0 | 11 | 4.93 | GHFVSARIPVLGVPMVL | 73 | M | AF121975.1 | 50 ... 1012 |
| 585 | OR9Gn | 0 | 11 | 52.5 | FAAYCVGNIIKMLLNVC | 45 | M | AC074177.4 | 106297 ... 105361 |
| 586 | OR52Kn | 0 | 11 | 2.86 | MHSISARLPLLGVASVL | 53 | M | NM_013619.1 | 118 ... 969 |
| 587 | OR5MnP | 1 | 11 | 52.35 | FIVIYAYNSQLMVANLC | 51 | M | AC074177.4 | 106297 ... 105361 |
| 588 | OR52Kn | 0 | 11 | 2.86 | MHSISARLPLLGVAIVL | 52 | M | NM_013619.1 | 118 ... 969 |
| 589 | OR52KnP | 3 | 11 | 2.82 | MHSISARLPLLGVAIGL | 53 | M | NM_013619.1 | 118 ... 969 |
| 590 | OR52BnP | 4 | 11 | 2.78 | IHFISARVPDLGVLTVL | 57 | M | AF121975.1 | 50 ... 1012 |
| 591 | OR2B6P | 0 | 6 | 31.62 | LLGAYATNWLLLVSFHI | 79 | R | L34074.1 | 73 ... 1011 |
| 592 | OR2WnP | 7 | 6 | 31.61 | LLRGCASNVMLAFAIVL | 58 | M | AF102516.1 | 52 ... 669 |
| 593 | OR2AnP | 5 | 7 | 148.83 | TMAHCTCLVHLISSILG | 72 | M | AF102521.1 | 22 ... 669 |
| 594 | ORnP | 16 | 6 | 31.61 | FLVSCMDFMYIVLNNVI | 39 | M | AF102516.1 | 52 ... 669 |
| 595 | OR2LnP | 0 | 1 | 254.55 | STAVAGINAHYVSAFLF | 50 | M | AF102527.1 | 22 ... 669 |
| 596 | OR2W2P | 5 | 6 | 31.61 | LLGGCVCQSYWVLSIVM | 55 | R | L34074.1 | 73 ... 1011 |
| 597 | OR2LnP | 1 | 1 | 254.55 | SLAGA............ | 61 | M | AF102535.1 | 16 ... 669 |
| 598 | OR2B7P | 1 | 6 | 31.61 | LLGGCTTNIQLIVSFLV | 59 | M | AC044846.2 | 105668 ... 104736 |
| 599 | OR2Ln | 0 | 1 | 254.43 | SLGGAGINAHYVSAFLF | 53 | M | AF102527.1 | 22 ... 669 |
| 600 | OR5BFn | 0 | 1 | 254.77 | VVVYLASYMHSISAVGG | 46 | M | AL359352.1 | 9138 ... 8177 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 601 | OR2LnP | 4 | 1 | 254.55 | SVAGMSMDAHYVSTFLF | 47 | M | AF102527.1 | 22 ... 669 |
| 602 | OR7EnP | 3 | 10 | 17.14 | MVACCVLDLHI...... | 51 | R | AF091580.1 | 7 ... 663 |
| 603 | OR1H1 | 2 | 9 | 106.04 | LGADNVIHVHLLVALLA | 57 | M | AC073769.1 | 133488 ... 132556 |
| 604 | ORnP | 14 | 1 | 254.49 | TTTKKSERIYIVSSFLI | 24 | M | AF102527.1 | 22 ... 669 |
| 605 | OR4Dn | 0 | 11 | 55.81 | IHGGIASHIQLMNNVTL | 64 | M | AC019272.4 | 183633 ... 182701 |
| 606 | OR1Ln | 0 | 9 | 106.04 | MYGNSFFHLHLQEAVLT | 54 | M | AC023167.7 | 60743 ... 61663 |
| 607 | OR5AXn | 0 | 1 | 254.2 | LTSAIVIFAYGGVGLSS | 47 | M | AL136158.14 | 154973 ... 155908 |
| 608 | OR5An | 0 | 11 | 55.77 | YCGLCGGSIESTVSVGV | 64 | M | Y15525.1 | 1 ... 705 |
| 609 | OR5AYn | 0 | 1 | 254.2 | LVAGILNLLYGSIGYAS | 50 | M | AL359352.1 | 126933 ... 127889 |
| 610 | OR13Gn | 0 | 1 | 255.42 | LTLGMMINVHLVADLAG | 59 | M | AF102540.1 | 16 ... 669 |
| 611 | OR5BBnP | 0 | 11 | 55.77 | YASLCGGSVHPLEAVGG | 54 | M | Y15525.1 | 1 ... 705 |
| 612 | OR9GnP | 6 | 11 | 52.49 | FVXNCAGNIIELMLNIT | 47 | M | AF121977.1 | 262 ... 1197 |
| 613 | OR2TnP | 4 | 1 | 254.77 | HLAGFAGNLLVMCCMLI | 75 | M | AF102527.1 | 22 ... 669 |
| 614 | ORnP | 7 | 1 | 255.42 | PVAGKGAFLHSVESLGS | 38 | M | AL365337.1 | 192661 ... 191711 |
| 615 | OR1Jn | 0 | 9 | 95.9 | MITDSVLSSHLMVGVIL | 66 | M | AF102524.1 | 52 ... 669 |
| 616 | OR2CnP | 1 | 16 | 6.47 | LLGACIGNIQFLVCFTV | 85 | M | M84005.1 | 1 ... 936 |
| 617 | OR9GnP | 2 | 11 | 52.49 | FAAYCYGNILNLLLNVS | 49 | M | AL365337.1 | 192661 ... 191711 |
| 618 | OR2C1 | 0 | 16 | 6.4 | LLGACIGNIQFLVCFTV | 85 | M | M84005.1 | 1 ... 936 |
| 619 | OR51AnP | 2 | 11 | 4.22 | ................. | 52 | M | AF071080.2 | 26330 ... 27262 |
| 620 | OR9Gn | 0 | 11 | 52.49 | LCAYCGGNAHNLVVTVS | 53 | M | AC068904.15 | 165039 ... 165965 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 621 | OR52Bn | 0 | 11 | 2.78 | LHFISTRTPILGILTVL | 61 | M | AF121975.1 | 50 ... 1012 |
| 622 | OR1K1 | 0 | 9 | 105.89 | MFGVSMVHLYLIEGVVT | 58 | R | M64377.1 | 1 ... 939 |
| 623 | OR51RnP | 3 | 11 | 2.78 | MHTYSARLPGLGSISLL | 47 | R | AF079864.1 | 632 ... 1576 |
| 624 | OR7EnP | 2 | 13 | 54.83 | MVACDVLDLHILDSFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 625 | OR52PnP | 3 | 11 | 2.82 | MHSASARLPLLGAAVVT | 55 | M | AF121975.1 | 50 ... 1012 |
| 626 | OR7EnP | 5 | 9 | 70.7 | MVACDVQYVHSMDSFGL | 48 | M | AF102536.1 | 22 ... 669 |
| 627 | OR7EnP | 5 | 9 | 70.7 | TAGGD.CCCCC...... | 43 | M | AF073989.1 | 547 ... 1515 |
| 628 | OR4KnP | 1 | 21 | 8.12 | IHTGMIVHSQFIDSLSS | 57 | M | AF259072.1 | 104176 ... 105099 |
| 629 | OR4KnP | 2 | 21 | 8.12 | IHNGIVVHSQFMTSTAT | 54 | M | AB030896.1 | 1 ... 906 |
| 630 | OR7EnP | 6 | 9 | 70.7 | .....VFLVHSVPAFGL | 58 | M | X89686.1 | 32 ... 472 |
| 631 | OR51In | 0 | 11 | 4.15 | MHSFSGKTPFVGVITYM | 51 | R | AF079864.1 | 632 ... 1576 |
| 632 | OR51In | 0 | 11 | 4.15 | MHSMSGRTPLLGVLTFM | 56 | R | AF079864.1 | 632 ... 1576 |
| 633 | OR2AnP | 1 | 7 | 148.83 | TLAICTFL......... | 63 | M | AF102521.1 | 22 ... 669 |
| 634 | OR2A2 | 2 | 7 | 148.83 | TLAVCTCLVHLITCVLG | 68 | M | AF102521.1 | 22 ... 669 |
| 635 | OR2AnP | 8 | 7 | 148.83 | TFAACTCLVHLITCVLG | 68 | M | AF102521.1 | 22 ... 669 |
| 636 | OR2Gn | 0 | 1 | 256.63 | LHGSCMSTVQLLASFLV | 59 | M | NM_008762.1 | 1 ... 936 |
| 637 | OR2AnP | 0 | 7 | 148.83 | TLAHCAFFFFL...... | 57 | M | AF102521.1 | 22 ... 669 |
| 638 | OR6Fn | 0 | 1 | 254.2 | MFGCYGCAVPLAIAVIS | 71 | R | M64378.1 | 1 ... 933 |
| 639 | OR2AnP | 4 | 7 | 148.83 | TLAHCAFLVHLISCILG | 68 | M | AF102521.1 | 22 ... 669 |
| 640 | OR2Gn | 0 | 1 | 256.02 | LLGSCISSIHFLVSFVI | 63 | M | M84005.1 | 1 ... 936 |
| 641 | OR7E37P | 5 | 13 | 26.5 | MAGGEFLDLHIMPAFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 642 | OR5AVn | 0 | 1 | 256.02 | AMATVMSCMHAVFGLVI | 51 | M | AL359352.1 | 9138 ... 8177 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 643 | OR2AJnP | 7 | 1 | 254.43 | VLLGCGINVHYVSAFLI | 55 | M | AF102527.1 | 22 ... 669 |
| 644 | OR13EnP | 1 | 9 | 39.89 | MLGSCLTNLQLLATLTA | 79 | M | AJ251155.1 | 15491 ... 16423 |
| 645 | OR2Cn | 0 | 1 | 257.85 | FHGACAGTVGLMASFVL | 63 | M | M84005.1 | 1 ... 936 |
| 646 | OR2TnP | 0 | 1 | 254.43 | IPGGCSLDLQAMCCMLV | 59 | M | AF102537.1 | 16 ... 669 |
| 647 | OR2WnP | 2 | | | LMGSCVCNIMQTLGLLV | 56 | M | M84005.1 | 1 ... 936 |
| 648 | OR13Jn | 0 | 9 | 39.89 | MLGSCALKTEILGSLLV | 82 | M | AJ251155.1 | 6062 ... 6997 |
| 649 | OR6RnP | 2 | 1 | 254.39 | SFGCFLGLPSLDSSLIS | 45 | M | NM_010983.1 | 178 ... 975 |
| 650 | OR5ATn | 0 | 1 | 254.39 | VLASLVYIMHGLINLDC | 50 | M | AL359352.1 | 111313 ... 112242 |
| 651 | OR2Zn | 0 | 19 | 10.64 | ITGVGSVNIQILSGILL | 76 | M | AC073769.1 | 54319 ... 55289 |
| 652 | OR4Ln | 0 | 14 | 0.08 | MHGGMLIHSQLVDSLST | 53 | M | AB030893.1 | 37 ... 930 |
| 653 | OR4UnP | 14 | 14 | 0.15 | RHSGMAMHSQLVDSLSL | 46 | M | AB030895.1 | 1 ... 924 |
| 654 | OR4Fn | 0 | 6 | 185.98 | IHGGMIIHIQFVNSISA | 50 | M | AF102522.1 | 40 ... 660 |
| 655 | OR4FnP | 2 | 6 | 185.98 | IHGGMAIHVQFVNSISS | 50 | M | AB030896.1 | 1 ... 906 |
| 656 | OR4Fn | 0 | 6 | 185.98 | IHGGMATHVQFVNSISG | 50 | M | AB030896.1 | 1 ... 906 |
| 657 | OR4Fn | 0 | 6 | 185.98 | IHGGMTIHVQFVNSISG | 50 | M | AB030896.1 | 1 ... 906 |
| 658 | OR4AnP | 5 | 11 | 50.28 | IHGGILGHVQFVNDICV | 65 | M | AF102522.1 | 40 ... 660 |
| 659 | OR4LnP | 1 | 14 | 0.21 | KHGSMLIHSQLVDSLST | 53 | M | AB030893.1 | 37 ... 930 |
| 660 | OR7E33P | 6 | 13 | 54.79 | MAGGEFLDLRILPAFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 661 | OR2Cn | 0 | 1 | 257.85 | FHGACAGTVGLMASFVL | 63 | M | M84005.1 | 1 ... 936 |
| 662 | OR4Kn | 0 | 14 | 0.15 | MHGGMSVHSQFVDSLSV | 53 | M | AF259072.1 | 104176 ... 105099 |
| 663 | OR5U1 | 0 | 6 | 33.45 | VIASVAASMHILFTAAI | 84 | M | AL359352.1 | 111313 ... 112242 |
| 664 | OR4Kn | 0 | 14 | 0.08 | IHGGMAVHSQFMDSLSS | 58 | M | AF259072.1 | 104176 ... 105099 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 665 | OR5V1 | 0 | 6 | 33.45 | LVVGCSANVHLLTGIGT | 84 | M | AL365337.1 | 192661 ... 191711 |
| 666 | OR4QnP | 1 | 14 | 0.08 | LHGAMAGHVQLMNSISI | 62 | M | AF259072.1 | 104176 ... 105099 |
| 667 | OR12D3 | 0 | 6 | 33.45 | LHGSAAIYMHMLVTISG | 70 | M | AL359381.1 | 128169 ... 127234 |
| 668 | OR4Kn | 0 | 14 | 0.08 | IHTGMIVHSQFIDSLSS | 59 | M | AF259072.1 | 104176 ... 105099 |
| 669 | OR51CnP | 3 | | | MKTVSARMPMLGAMTVV | 53 | R | AF079864.1 | 632 ... 1576 |
| 670 | OR1J2 | 0 | 9 | 105.94 | MITDSVLSSHLMVGVIL | 66 | M | AF102524.1 | 52 ... 669 |
| 671 | OR5BJnP | 3 | | | SIGSAAVNTKFPSCLGV | 46 | M | AF073965.1 | 2 ... 643 |
| 672 | OR1J1 | 0 | 9 | 105.82 | TIADSGICLHLIAAAIL | 63 | M | AF102524.1 | 52 ... 669 |
| 673 | OR13En | 0 | | | MLGSCLTNLQLLATLTA | 83 | M | AJ251155.1 | 15491 ... 16423 |
| 674 | OR4KnP | 5 | 14 | 0.08 | IHGGMVIHTHFVNSLSM | 53 | M | AB030893.1 | 37 ... 930 |
| 675 | OR1LnP | 5 | 9 | 105.84 | MYGNSFFHLHLQEAVLT | 54 | M | AC023167.7 | 60743 ... 61663 |
| 676 | OR2CnP | 2 | | | FHGACAGTVGLMASFVL | 59 | M | M84005.1 | 1 ... 936 |
| 677 | OR4TnP | 9 | 14 | 0.21 | MLSELLSHSQFVKSLSI | 47 | M | AC019272.4 | 62255 ... 61317 |
| 678 | OR5BnP | 1 | | | FVITSGCNIHNIVVNDF | 51 | M | AF121977.1 | 262 ... 1197 |
| 679 | OR4Kn | 0 | 14 | 0.21 | IHGGMTLHFQFINSISS | 53 | M | AB030896.1 | 1 ... 906 |
| 680 | OR11Ln | 0 | 1 | 254.43 | LVGACVTTLHMILSVLI | 50 | M | AF121972.1 | 171 ... 1109 |
| 681 | OR7E68P | 5 | 10 | 17.21 | MAGGELLDLHIMPAFGL | 56 | M | AF102536.1 | 22 ... 669 |
| 682 | OR7EnP | 2 | 10 | 17.21 | MVACDVLDLHIIDSFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 683 | OR7E31P | 6 | 9 | 70.71 | TAGGELLDLHIMPAFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 684 | OR7EnP | 3 | 9 | 70.71 | MVACDVLDLHIMDSFGL | 58 | M | AF073989.1 | 547 ... 1515 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 685 | OR5AKnP | 3 | 11 | 52.82 | LAATCGMNVHFLFVNLF | 79 | R | U50948.1 | 34 ... 978 |
| 686 | OR5AKn | 0 | 11 | 52.83 | FAATCGMNVQFLFVNLF | 79 | R | U50948.1 | 34 ... 978 |
| 687 | OR5AKn | 0 | 11 | 52.83 | FAATCGINVHFDFVDLF | 79 | R | U50948.1 | 34 ... 978 |
| 688 | OR5BQnP | 9 | 11 | 52.82 | TTTTTLLLLLMLTFFFF | 42 | R | U50948.1 | 34 ... 978 |
| 689 | OR1Nn | 0 | 9 | 105.94 | LLGGNVLPMHLIMGFLV | 56 | R | AF091566.1 | 1 ... 663 |
| 690 | OR1J4 | 0 | 9 | 105.94 | MITDNVLNSHLIVGVIL | 69 | M | AF102524.1 | 52 ... 669 |
| 691 | OR1Nn | 0 | 9 | 105.94 | MLGDSLLVTHLVLGVLV | 85 | R | AB038167.1 | 1 ... 933 |
| 692 | OR2AnP | 4 | 3 | 94.41 | TLAVCTIMVHHLGSIVG | 65 | M | AF102521.1 | 22 ... 669 |
| 693 | OR2ANnP | 17 | 9 | 93.78 | ......VVVLEFMVNLLI | 23 | M | AC074177.4 | 128803 ... 129726 |
| 694 | OR5K1 | 0 | 3 | 104.47 | FCETCGAHIHLLFSVQF | 51 | R | AF091575.1 | 52 ... 663 |
| 695 | OR2K2 | 0 | 9 | 93.78 | MLGSCVTTLEFMVSLLI | 60 | M | AJ251154.1 | 35662 ... 36615 |
| 696 | OR8Hn | 0 | 11 | 51.76 | MAGTCGIDVNSIIVTLV | 51 | M | AC069559.8 | 36251 ... 35322 |
| 697 | ORnP | 15 | 11 | 51.76 | LIFKNLFSPPLXXHYIL | 28 | M | X89682.1 | 2 ... 472 |
| 698 | OR4AnP | 14 | 11 | 50.28 | FGRRVVGHIQLYGHNYV | 38 | M | AB030895.1 | 1 ... 924 |
| 699 | OR4An | 0 | 11 | 50.28 | LHGGVVGQFQIVNGSCI | 59 | M | AB030895.1 | 1 ... 924 |
| 700 | OR6Sn | 0 | 14 | 0.58 | FFGAFAGPGPADLAVIS | 50 | R | M64378.1 | 1 ... 933 |
| 701 | OR4RnP | 16 | 11 | 50.28 | NLGAIMEHVXSVNGNYL | 52 | M | AF102522.1 | 40 ... 660 |
| 702 | OR13Cn | 0 | 9 | 86.77 | MLGTCGINVQFLTTFLT | 65 | M | AJ133425.1 | 61 ... 1014 |
| 703 | OR13DnP | 4 | 9 | 86.77 | MYGSCVLNTELIGNFLS | 64 | M | AC023789.5 | 371264 ... 372220 |
| 704 | OR7EnP | 3 | 11 | 2.13 | MIACGVLDLHIINSFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 705 | OR10PnP | 1 | 12 | 59.88 | MIGICTTTTHLVATFII | 49 | M | AF247657.1 | 1 ... 945 |
| 706 | OR8In | 0 | 11 | 51.76 | MVVCCMISISVSLATLS | 50 | M | AC069559.8 | 137090 ... 138039 |
| 707 | OR8G1 | 0 | | | ..IIIGICVHCIVGNIV | 75 | R | AF091576.1 | 52 ... 663 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 708 | ORnP | 7 | 12 | 59.88 | CFPGEAFFTLL...... | 34 | M | AL359352.1 | 145887 ... 145042 |
| 709 | OR5F1 | 0 | 11 | 51.76 | MIATCGANVNHSLANIG | 50 | M | Y15525.1 | 1 ... 705 |
| 710 | OR5FnP | 1 | 11 | 51.76 | MIATCGANVNYFFANKG | 52 | M | Y15525.1 | 1 ... 705 |
| 711 | OR6BnP | 6 | 2 | 251.7 | LSVCCFSIIKFDLAILF | 70 | M | L14567.1 | 17 ... 667 |
| 712 | OR2D1 | 0 | | | LLGCCASVVDFITGILI | 64 | M | AF073987.1 | 2 ... 649 |
| 713 | OR5ASn | 0 | 11 | 51.76 | MAADCLSTVHLLLCIQS | 52 | M | AC068904.1 5 | 165039 ... 165965 |
| 714 | OR5SnP | 8 | 2 | 251.7 | FSSTTGRSVQLKLCMMN | 64 | R | AF091579.1 | 7 ... 663 |
| 715 | OR5AQn P | 0 | 11 | 51.76 | SAVTDAGNTHGPFSIAF | 51 | R | X80671.1 | 203 ... 1129 |
| 716 | OR6BnP | 3 | 2 | 251.7 | LSVCCFSIIKFDLAILF | 67 | M | L14567.1 | 17 ... 667 |
| 717 | OR5JnP | 2 | 11 | 51.76 | YVLTGGGNTHGLFSIAL | 52 | R | X80671.1 | 203 ... 1129 |
| 718 | OR9AnP | 4 | 7 | 146.91 | QLGTLVFFWPALMAIIG | 44 | M | NM_010991.1 | 1 ... 939 |
| 719 | OR5BEn P | 2 | 11 | 51.76 | YSLTCVLNTHSFLSTST | 45 | R | AF091564.1 | 7 ... 663 |
| 720 | OR9An | 0 | 7 | 146.91 | LLGTFVFFWPVLMAVLG | 47 | M | NM_010991.1 | 1 ... 939 |
| 721 | OR8Hn | 0 | 11 | 51.76 | MVGTCGIDVNSIIATLV | 51 | M | AC069559.8 | 36251 ... 35322 |
| 722 | OR5BNn P | 14 | 11 | 51.76 | LLMTCAYMSHS.....P | 54 | M | AF102528.1 | 52 ... 669 |
| 723 | OR8Jn | 0 | 11 | 51.76 | LLIVVLYTVVCVSANLF | 80 | M | X89682.1 | 2 ... 472 |
| 724 | OR9NnP | 9 | 7 | 146.91 | LFGTFIIIIIL.AAAAA | 36 | M | NM_010991.1 | 1 ... 939 |
| 725 | OR7EnP | 4 | 7 | | MVACGMLDLHITHSFAL | 51 | R | AF091580.1 | 7 ... 663 |
| 726 | OR7E9P | 3 | 7 | | MVACDVLDLHVIDSFGL | 51 | M | AF073989.1 | 547 ... 1515 |
| 727 | OR8KnP | 8 | 11 | 51.76 | MMITLICQIIDILTNLP | 36 | M | AC069563.9 | 28460 ... 29383 |
| 728 | OR2AnP | 1 | 7 | 148.97 | ILAHC............ | 44 | M | AF102521.1 | 22 ... 669 |
| 729 | OR8Kn | 0 | 11 | 51.76 | LLIIFIYQMFKSFSNLS | 56 | M | AF102528.1 | 52 ... 669 |
| 730 | OR7E39 P | 4 | | | MVGGELFHLHIMPAFGL | 55 | R | AF091580.1 | 7 ... 663 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 731 | OR7E27P | 3 | | | MAGGELLDLHIMPAFGL | 57 | M | AF102536.1 | 22 ... 669 |
| 732 | OR2Hn | 0 | 6 | | FLGTCVMEVQSLASILV | 81 | M | AL078630.1 | 41097 ... 40165 |
| 733 | OR13CnP | 2 | 9 | 40.16 | MLGACGATVQLMANFLV | 87 | M | AJ133428.1 | 61 ... 1017 |
| 734 | OR13Cn | 0 | 9 | 40.16 | MFGACGAAVQLMTNFLV | 89 | M | AJ133424.1 | 61 ... 1017 |
| 735 | OR2S1P | 4 | 9 | 40.16 | MFGACGANVQLMTNFLL | 89 | M | AJ251154.1 | 2703 ... 1747 |
| 736 | OR2AMnP | 1 | 9 | 40.16 | .....RRRRRV.MMMMM | 63 | M | AJ251154.1 | 2703 ... 1747 |
| 737 | OR1N1 | 0 | 1 | | MLGDSLLVTHLVLGVLV | 85 | R | AB038167.1 | 1 ... 933 |
| 738 | OR2S2 | 0 | 9 | 40.13 | MFAGCSIAVHLMTNFLV | 83 | M | AJ251154.1 | 2703 ... 1747 |
| 739 | OR7E26P | 4 | 1 | | MAGGELLDLHIMPAFGL | 56 | M | AF102536.1 | 22 ... 669 |
| 740 | OR1F11 | 0 | | | LAGNNGVNLHLIEGVMT | 99 | R | M64377.1 | 1 ... 939 |
| 741 | OR5ACnP | 3 | 3 | 103.97 | FGATCIIHIHLIFSIQF | 66 | R | AF091575.1 | 52 ... 663 |
| 742 | OR5B10P | 2 | 13 | | MVATNGCNLRDLMSNVL | 46 | M | AF102528.1 | 52 ... 669 |
| 743 | OR2AnP | 1 | 12 | 85.7 | TLAVCAFLVHLIACILG | 76 | M | AF102521.1 | 22 ... 669 |
| 744 | OR1E5 | 0 | 13 | | MLGDSLLHLHLIMGILI | 83 | R | Y07557.1 | 1 ... 942 |
| 745 | OR4Fn | 0 | 6 | 185.71 | IHGGMVLHFQFVNSICG | 51 | M | AB030896.1 | 1 ... 906 |
| 746 | OR5CnP | 0 | 9 | 40.53 | MAADC............ | 47 | M | Y15525.1 | 1 ... 705 |
| 747 | OR2WnP | 0 | 6 | 31.62 | LLGGCVSNIMQALAIIA | 64 | M | AF102516.1 | 52 ... 669 |
| 748 | OR2L2 | 0 | | | ..IIIGINAHYVSSFLL | 48 | M | AF102537.1 | 16 ... 669 |
| 749 | OR4H8P | 2 | 14 | | MHGCILGHVQLVNSISG | 56 | M | AF259072.1 | 104176 ... 105099 |
| 750 | OR5D10P | 5 | | | LCVVTTWCTLFTSANES | 44 | R | AF010293.1 | 211 ... 1143 |
| 751 | OR7A12P | 1 | 14 | | MVIVSAMNIEMMSALGG | 68 | M | AF283558.1 | 1 ... 927 |
| 752 | OR2L1 | 0 | | | ..IIIGINAHYVSTFLF | 48 | M | AF102527.1 | 22 ... 669 |
| 753 | OR2F3P | 0 | 14 | | LLGGFTSSVQIISSLLT | 55 | M | AF073974.1 | 41 ... 649 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 754 | OR4H10P | 2 | 15 | | MHGCILGHVQLVNSISG | 57 | M | AF259072.1 | 104176 ... 105099 |
| 755 | OR5H1 | 0 | | | ..IIILGHIHFVFSIQF | 56 | R | AF091575.1 | 52 ... 663 |
| 756 | OR2K1 | 0 | | | ..IIIITTLVCMVSLLI | 58 | M | AJ133428.1 | 61 ... 1017 |
| 757 | OR7E11P | 7 | 11 | | MAGGEFLDLHILPAFGL | 52 | M | AF073989.1 | 547 ... 1515 |
| 758 | OR7A3P | 1 | 11 | | MVIVSAMNIEMMSALGG | 68 | M | AF283558.1 | 1 ... 927 |
| 759 | OR6A1 | 0 | 11 | | LLGCCGGIVKLDLAILG | 91 | R | M64386.1 | 130 ... 975 |
| 760 | OR5I1 | 0 | 11 | | FCADSLGSVHFLYGVEI | 52 | M | Y15525.1 | 1 ... 705 |
| 761 | OR2H3 | 0 | 6 | | ILGTCVIGVQSVASILV | 86 | M | AL078630.1 | 41097 ... 40165 |
| 762 | OR10J1 | 0 | | | MVGICGIVTQSTISVLV | 73 | M | X92969.1 | 8035 ... 8961 |
| 763 | OR7E3P | 3 | 11 | | MFACGVLDLHIIDSFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 764 | OR1D6P | 1 | 11 | | LVVANLFYIHLLTGIFI | 48 | R | Y07557.1 | 1 ... 942 |
| 765 | OR5D10P | 2 | 18 | | LCVVTTWCTLFTSASES | 45 | R | U50948.1 | 34 ... 978 |
| 766 | OR5D5P | 2 | 18 | | LCVVTTWCTLFTSANES | 46 | M | AC073947.3 | 29192 ... 30115 |
| 767 | OR52A1 | 0 | 11 | | MHQGSMAVCLIGVAVAF | 72 | M | NM_013620.1 | 1 ... 945 |
| 768 | OR2AEn | 0 | 7 | 98.36 | HLGGCMGNIHIVSSLLL | 48 | M | AC073769.1 | 143294 ... 142353 |
| 769 | OR6LnP | 7 | 10 | 149.44 | LLSSCSSAVSLRAAILA | 40 | M | NM_010983.1 | 178 ... 975 |
| 770 | OR6LnP | 7 | 10 | 149.44 | LLSSCSSAVSLRAAILA | 41 | M | NM_010983.1 | 178 ... 975 |
| 771 | OR7MnP | 7 | 10 | 149.44 | .....NVYVSL...... | 29 | M | AC073947.3 | 43325 ... 42733 |
| 772 | OR13Cn | 0 | 9 | 86.77 | MFGACGTDVQFMSNVLI | 69 | M | AJ133428.1 | 61 ... 1017 |
| 773 | OR13Cn | 0 | 9 | 86.85 | MLGTCGANVQFMATFTM | 71 | M | AJ133425.1 | 61 ... 1014 |
| 774 | OR2InP | 6 | | | LLGSC............ | 79 | M | AL078630.1 | 151152 ... 150391 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 775 | OR4An | 0 | 11 | 50.28 | LHGGVVGHFQVVNSICV | 58 | M | AB030895.1 | 1 ... 924 |
| 776 | OR2InP | 3 | | | ......RRRRRMARILL | 77 | M | AL078630.1 | 151152 ... 150391 |
| 777 | OR4AnP | 4 | 11 | 50.28 | LHGGVVGSFQVVNGICV | 53 | M | AB030896.1 | 1 ... 906 |
| 778 | OR4AnP | 7 | 11 | 50.28 | PHGGAVAHFQVVNGICV | 57 | M | AB030896.1 | 1 ... 906 |
| 779 | OR8C1P | 2 | 11 | | LCVHCGMGVHCMIVVVV | 72 | M | AC068905.1 2 | 76922 ... 75948 |
| 780 | OR4AnP | 1 | 11 | 50.28 | LHGDVVGHFQVVNGICV | 56 | M | AB030896.1 | 1 ... 906 |
| 781 | OR7E15 P | 5 | 11 | | MAGGELQDVHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 782 | OR10A1 | 0 | 11 | | MFGVCAPVVQWAGTVVI | 76 | M | AF247657.1 | 1 ... 945 |
| 783 | OR2An | 0 | | | TSAVCTCLVHLI..... | 70 | M | AF102521.1 | 22 ... 669 |
| 784 | OR7EnP | 6 | | | MAGGELFHLHIMPAFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 785 | OR7En | 0 | | | MAGGDFLDLHIVPAFVL | 54 | R | AF091580.1 | 7 ... 663 |
| 786 | OR51A1 P | 5 | 11 | | MHTLSARLPLLAVITFL | 43 | R | AF079864.1 | 632 ... 1576 |
| 787 | OR7E47 P | 4 | | | KAGTNLLDLYIMPTFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 788 | OR5B5P | 2 | 3 | | MAATNICNIHELVANIS | 48 | M | AF146372.1 | 509 ... 1456 |
| 789 | OR1F10 | 0 | 3 | | MFVDNGVNLHLIEGVMT | 72 | R | M64377.1 | 1 ... 939 |
| 790 | OR8G2 | 0 | | | ..IIIGLGIHFVLSNIT | 75 | M | AF102518.1 | 52 ... 669 |
| 791 | OR1Sn | 0 | 11 | 54.08 | MIVVNILITHLLVGVIF | 55 | M | AC073769.1 | 133488 ... 132556 |
| 792 | OR4AnP | 3 | 11 | 50.73 | LHGGAVGHFQVVSGLCV | 56 | M | AB030896.1 | 1 ... 906 |
| 793 | OR4AnP | 7 | 11 | 50.76 | LHGGILGHFQVVNGMCV | 58 | M | AB030896.1 | 1 ... 906 |
| 794 | OR4AnP | 5 | 11 | 50.66 | LHGGVLGHFQVVNGMRV | 56 | M | AB030896.1 | 1 ... 906 |
| 795 | OR4AnP | 7 | 11 | 50.73 | PHGGVVGRFQVVKVICV | 54 | M | AB030896.1 | 1 ... 906 |
| 796 | OR4AnP | 1 | 11 | 50.81 | LHGGIVGHFQVVSGMCV | 60 | M | AB030896.1 | 1 ... 906 |
| 797 | OR4AnP | 10 | 11 | 50.81 | LHGGVVGNFQVVNGICV | 55 | M | AF102522.1 | 40 ... 660 |
| 798 | OR4An | 0 | 11 | 50.73 | LHAGVAGHVQFMNGICV | 62 | M | AB030895.1 | 1 ... 924 |
| 799 | OR4An | 0 | 11 | 50.73 | LHGGVVGHVQFVNGICV | 57 | M | AB030896.1 | 1 ... 906 |
| 800 | OR7E42 P | 4 | | | MAGGELQDVHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 801 | OR2M3P | 2 | | | ITLGCFLDIDALCCMIF | 55 | M | AF102537.1 | 16 ... 669 |
| 802 | OR4H11 P | 2 | 4 | | MHGCILGHVQLVNSISG | 57 | M | AF259072.1 | 104176 ... 105099 |
| 803 | OR7E57 P | 5 | | | MAXGEFLDLHILPAFGL | 51 | M | AF102536.1 | 22 ... 669 |
| 804 | OR2B1P | 0 | 5 | | LLGAYATNWLLLVSFHI | 78 | R | L34074.1 | 73 ... 1011 |
| 805 | OR7E34 P | 2 | | | MAGGDSLDLHIMPAFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 806 | OR7E56 P | 4 | | | MAGDELFFLHILPAFGL | 52 | M | AF073989.1 | 547 ... 1515 |
| 807 | OR3AnP | 1 | 5 | | LHAGCACNTHALAAMAA | 49 | M | AF073967.1 | 2 ... 649 |
| 808 | OR4H5P | 2 | 5 | | MHGCILGHVQLVNSISG | 56 | M | AF259072.1 | 104176 ... 105099 |
| 809 | OR1En | 0 | 5 | | MLGDSLLHLHLIMGILI | 82 | R | Y07557.1 | 1 ... 942 |
| 810 | OR51Cn P | 2 | 11 | 3 | MKTVSYYYIXQ...... | 48 | M | AF121975.1 | 50 ... 1012 |
| 811 | OR2WnP | 2 | 6 | 30.51 | LLGGCVSNIMQALAIIA | 64 | M | AF102516.1 | 52 ... 669 |
| 812 | OR51B1 P | 5 | 11 | | AHSVSGRSPVRPLITIL | 68 | M | AF071080.2 | 15931 ... 16851 |
| 813 | OR7E81 P | 3 | | | MAGGEFFSLHIMPAFGL | 54 | M | AF102536.1 | 22 ... 669 |
| 814 | OR7E44 P | 1 | | | MAGGELFDLHIMLAFGL | 53 | M | AF073989.1 | 547 ... 1515 |
| 815 | OR5B7P | 2 | 6 | | MAATNICNIHELVANIS | 47 | M | NM_013728.1 | 1 ... 948 |
| 816 | OR7E36 P | 4 | | | MAGGELFFLHIMPAFGL | 58 | M | AF073989.1 | 547 ... 1515 |
| 817 | OR2A5 | 0 | 7 | | TMAHCTCLVHLIASILG | 74 | M | AF102521.1 | 22 ... 669 |
| 818 | OR5B1P | 2 | 8 | | MAATNICNIHELVANIS | 47 | M | AF146372.1 | 509 ... 1456 |
| 819 | OR8B8 | 0 | 11 | 137.68 | LLVVSGMGAHCVVVDIV | 72 | M | AC069559.8 | 120212 ... 119283 |
| 820 | OR8B4P | 0 | 11 | 137.71 | LCVNCGVGAHSFVVITL | 87 | M | AC068910.21 | 133103 ... 132162 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 821 | ORnP | 15 | 11 | 137.77 | LCVENRRTATHCKSHII | 35 | M | AC069563.9 | 60295 ... 59327 |
| 822 | OR8B3 | 0 | 11 | 137.77 | LLVICAMGAHCVVVNIV | 85 | M | AC069563.9 | 129775 ... 130725 |
| 823 | OR2Bn | 0 | 6 | 30.51 | LLGSCASNLQWLISFLI | 89 | R | L34074.1 | 73 ... 1011 |
| 824 | OR8B6P | 6 | 11 | 137.77 | LAFFCGLSAHCVAAAVI | 73 | M | AC069559.8 | 96224 ... 95292 |
| 825 | OR8B5P | 6 | 11 | 137.77 | LFFFXGLGAHCVVANTV | 73 | M | AC069559.8 | 96224 ... 95292 |
| 826 | OR4E2 | 0 | 14 | 1.7 | LHACIAGHGQLINSISS | 90 | M | AF259072.1 | 104176 ... 105099 |
| 827 | OR8B7P | 4 | 11 | 137.77 | FCVICGWGAHCVAAIFV | 71 | M | AC069559.8 | 96224 ... 95292 |
| 828 | OR11JnP | 3 | 15 | 1.82 | FSCAGFGSMPLCVSIII | 56 | M | AF121972.1 | 171 ... 1109 |
| 829 | OR4E1P | 3 | 14 | 1.7 | MHACIAGHALLINSISV | 92 | M | AB030893.1 | 37 ... 930 |
| 830 | OR10DnP | 7 | 11 | 137.96 | .....HHHILLGNVLSI | 85 | M | AC074177.4 | 12106 ... 13038 |
| 831 | ORnP | 10 | 14 | 1.7 | VFRGGFHKFFF...... | 23 | M | AF102536.1 | 22 ... 669 |
| 832 | OR8D2 | 0 | 11 | 137.77 | LLVIGVLWVHRLIGNTA | 70 | M | AC073947.3 | 29192 ... 30115 |
| 833 | OR11InP | 1 | 1 | 126.31 | FGAACGCLITLATSVTI | 51 | M | AL359381.1 | 175785 ... 176720 |
| 834 | OR11JnP | 1 | 15 | 1.82 | FSCACFGWTPLCISIIL | 56 | M | AF121972.1 | 171 ... 1109 |
| 835 | OR10AnP | 3 | 11 | 5.64 | MFGVCTPVVQWAGTVVI | 74 | M | AF247657.1 | 1 ... 945 |
| 836 | OR8C3P | 5 | 11 | 137.77 | LCVHCGMGVHCMIVVVV | 73 | M | AC068905.12 | 76922 ... 75948 |
| 837 | OR2DnP | 6 | 11 | 5.64 | LLGCCGSVVDFITGILI | 62 | M | AF073987.1 | 2 ... 649 |
| 838 | OR4PnP | 0 | 11 | 51.03 | LHGGIVGHSQL...... | 59 | M | AB030895.1 | 1 ... 924 |
| 839 | OR7E21P | 5 | | | MAGGEFIDLHIMPAFGL | 50 | M | AF073989.1 | 547 ... 1515 |
| 840 | OR2M1 | 0 | | | IVLGCFLDIYAICSMLF | 55 | M | AF102537.1 | 16 ... 669 |
| 841 | OR7AnP | 4 | 19 | | NLAGVVMNLQM...... | 63 | M | AF073970.1 | 41 ... 649 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 842 | OR5D11P | 1 | 8 | | LCVVTTWCTLFTSANES | 44 | R | AF010293.1 | 211 ... 1143 |
| 843 | OR7E50P | 7 | 8 | | IVVCDMLDLHVFLDIFL | 57 | M | AF102536.1 | 22 ... 669 |
| 844 | OR7E45P | 3 | | | MAGGELFDLHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 845 | OR7E77P | 6 | | | MAGGEFLDLHIMPAFGL | 51 | M | AF073989.1 | 547 ... 1515 |
| 846 | OR8B2 | 0 | 11 | 137.77 | LLVICAMGAHCVVVNIV | 84 | M | AC069563.9 | 129775 ... 130725 |
| 847 | OR8D1 | 0 | 11 | 137.77 | LVVVGALSTHALIANTV | 87 | M | AC073947.3 | 29192 ... 30115 |
| 848 | OR8B1P | 4 | 11 | 137.77 | LLLVCGMGAHCVVVNIV | 84 | M | AC069559.8 | 96224 ... 95292 |
| 849 | OR7A1P | 2 | 19 | | MIVVSVVYLQMMTSLGG | 72 | R | M64376.1 | 1 ... 999 |
| 850 | OR7E8P | 4 | 8 | 13.72 | MVACGVLDLHIIDSFGL | 53 | M | AF102536.1 | 22 ... 669 |
| 851 | OR4DnP | 7 | 11 | 55.86 | MHGGVAGHVQLMNNISL | 58 | M | AC019272.4 | 183633 ... 182701 |
| 852 | OR7E80P | 7 | 8 | 13.72 | MAGGELQDVHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 853 | OR4DnP | 5 | 11 | 55.86 | MHGGAAGHVQLMNNLTL | 62 | M | AC019272.4 | 183633 ... 182701 |
| 854 | OR7E10P | 8 | 8 | 13.72 | IVACDLLDLHIIDSFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 855 | OR10B1P | 3 | 19 | 17.91 | MLGCCLSVIEMILSVVM | 85 | M | AC012302.5 | 54283 ... 55224 |
| 856 | OR2InP | 3 | | | .......LLLLMARILL | 75 | M | AL078630.1 | 151152 ... 150391 |
| 857 | OR4Dn | 0 | 11 | 55.86 | MHGGVGGHAQLMNNVSF | 65 | M | AC019272.4 | 183633 ... 182701 |
| 858 | OR5ACn | 0 | | | .VVVVIIHVHLIFGIQP | 65 | R | AF091575.1 | 52 ... 663 |
| 859 | OR2I1 | 0 | 6 | 33.63 | LLGSCASNAQLMARILL | 79 | M | AL078630.1 | 151152 ... 150391 |
| 860 | OR10H1 | 0 | 19 | 19.86 | MFGFSCGMVVAGLVTAL | 88 | M | AC023604.2 | 245345 ... 246298 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 861 | OR7E59P | 5 | | | CPEARVFLLHIMPAFGL | 53 | M | AF102536.1 | 22 ... 669 |
| 862 | OR7E28P | 4 | | | MAGGELLDLHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 863 | OR5B3 | 0 | | | MVATNGCNIHDLVVNII | 51 | R | U50948.1 | 34 ... 978 |
| 864 | OR2A6 | 0 | | | TLAHCAFLVPLIACILG | 75 | M | AF102521.1 | 22 ... 669 |
| 865 | OR6Cn | 0 | | | .VVVVCAIPPLVMAALI | 47 | M | NM_010991.1 | 1 ... 939 |
| 866 | OR7E54P | 5 | | | MAGGEFLDLHIMPAFGL | 52 | M | AF073989.1 | 547 ... 1515 |
| 867 | OR7E48P | 3 | | | MAGGEFLDLHIMPAFGL | 57 | R | AF091580.1 | 7 ... 663 |
| 868 | OR67AnP | 3 | 11 | 76.42 | MHSCAGTLPAQGIAVSL | 83 | R | AF091561.1 | 52 ... 663 |
| 869 | OR4DnP | 1 | 11 | 55.86 | MHGGVAGHVQLMNNLTL | 63 | M | AC019272.4 | 183633 ... 182701 |
| 870 | OR4CnP | 1 | 11 | 50.91 | VHGCILGHAQLLNSICS | 57 | M | AB030896.1 | 1 ... 906 |
| 871 | OR4DnP | 2 | 11 | 55.86 | IHGGIAGHVQLMNNVTL | 65 | M | AC019272.4 | 183633 ... 182701 |
| 872 | OR10H2 | 0 | 19 | 19.94 | MFGFSCGMVVAGLVMAL | 85 | M | AC023604.2 | 245345 ... 246298 |
| 873 | OR10H3 | 0 | 19 | 19.94 | MFGFSWGMMVMGLVTAI | 75 | M | AC023604.2 | 214343 ... 213396 |
| 874 | OR55CnP | 2 | 11 | 2.65 | VYLLYLQPGGG...... | 45 | M | AF121980.1 | 160 ... 1053 |
| 875 | OR55BnP | 3 | 11 | 2.65 | .VVVVLQVPLLGMCTVS | 53 | M | AF121980.1 | 160 ... 1053 |
| 876 | OR52VnP | 4 | 11 | 4.19 | LHNHIMVYXFLGTTSPL | 48 | M | NM_013619.1 | 118 ... 969 |
| 877 | OR2B3 | 0 | 6 | 33.64 | LLGACFINLQLLFSILI | 75 | R | L34074.1 | 73 ... 1011 |
| 878 | OR52TnP | 6 | 11 | 4.22 | FGHFLIFLDFLDILTIS | 45 | M | AF121975.1 | 50 ... 1012 |
| 879 | OR2J1P | 5 | 6 | 33.64 | LLGTCASTLHFLMSFVI | 57 | R | L34074.1 | 73 ... 1011 |
| 880 | OR52HnP | 3 | 11 | 4.19 | LHFVSGRVPCLGVPTVT | 60 | M | AF121975.1 | 50 ... 1012 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 881 | OR2J3 | 0 | 6 | 33.64 | LLGTCASNLHFLTSFVI | 58 | R | L34074.1 | 73 ... 1011 |
| 882 | OR52An | 0 | | | FHSVS......VVRLFS | 75 | R | AF079864.1 | 632 ... 1576 |
| 883 | OR4Qn | 0 | | | .VVVVAGHMQLVNSLSV | 56 | M | AB030893.1 | 37 ... 930 |
| 884 | OR52BnP | 2 | 11 | 4.22 | LHFVSVRTSILGVPSVL | 60 | M | AF121975.1 | 50 ... 1012 |
| 885 | OR2N1P | 9 | 6 | 33.64 | LHGGCPIYSEALVCMLV | 81 | M | AJ132195.1 | 79 ... 906 |
| 886 | OR51EnP | 1 | | | FHSASVRFPLLGAIAMV | 90 | R | AF079864.1 | 632 ... 1576 |
| 887 | OR2J2 | 0 | 6 | 33.64 | LLGICAIILHFLMSFVI | 57 | R | L34074.1 | 73 ... 1011 |
| 888 | OR2In | 0 | | | .....RRRRRRMARILR | 77 | M | AL078630.1 | 151152 ... 150391 |
| 889 | OR2J4P | 5 | 6 | 33.64 | LLGTCASNLHFLTSFVL | 56 | R | L34074.1 | 73 ... 1011 |
| 890 | OR7E40P | 4 | | | MAGGDILDLYILPDFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 891 | OR2H4P | 3 | 6 | 33.64 | LLGAYLTQIQAMASLLM | 63 | M | AL078630.1 | 41097 ... 40165 |
| 892 | OR7E52P | 5 | | | IVVCDVLDLHVCDIFGL | 61 | M | AF073989.1 | 547 ... 1515 |
| 893 | OR2InP | 9 | | | LLGSC............ | 80 | M | AL078630.1 | 151152 ... 150391 |
| 894 | OR6C1 | 0 | | | LIGVFTVIPALGCATLF | 52 | M | NM_010991.1 | 1 ... 939 |
| 895 | OR7E30P | 3 | | | MAGGEFLDLHIMPAFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 896 | OR5BAnP | 0 | 11 | 53.69 | LVVTSVFNIQNLFSVTL | 51 | R | AF091579.1 | 7 ... 663 |
| 897 | OR7H1P | 3 | 19 | 11.38 | MMGGTVLYIQLLVALDV | 74 | M | AF073989.1 | 547 ... 1515 |
| 898 | OR5B2 | 0 | 11 | 54.45 | MVATNGCNFHGLTSNIF | 47 | R | U50948.1 | 34 ... 978 |
| 899 | OR5AZnP | 1 | 11 | 53.69 | MIGTCTVNLLCILCLIF | 48 | R | AF091579.1 | 7 ... 663 |
| 900 | OR5Bn | 0 | 11 | 54.45 | MVATNGCNIHDLVVNII | 51 | R | U50948.1 | 34 ... 978 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 901 | OR52Bn | 0 | 11 | 4.22 | KILFSARIPSLGAASTL | 64 | M | NM_013619.1 | 118 ... 969 |
| 902 | OR5BnP | 2 | 11 | 54.45 | MAATNICNIHELVANIS | 49 | R | U50948.1 | 34 ... 978 |
| 903 | OR52Dn | 0 | 11 | 4.19 | MHYASVRIPFLGVAAML | 66 | M | AF121976.2 | 474 ... 1307 |
| 904 | OR7A11 | 1 | 19 | 17.72 | MVEASAIDLHMMAVLGV | 67 | M | AF283558.1 | 1 ... 927 |
| 905 | OR5BnP | 9 | 11 | 54.45 | MAATSALTVDDLLQFFL | 41 | M | NM_013728.1 | 1 ... 948 |
| 906 | OR51AnP | 5 | 11 | 4.19 | THSWFSRMPLLGIVAFV | 50 | R | AF079864.1 | 632 ... 1576 |
| 907 | OR7A15P | 4 | 19 | 17.72 | MIVGSVTHLHMMAALGG | 74 | R | M64376.1 | 1 ... 999 |
| 908 | OR7C2 | 0 | 19 | 17.72 | IIGCNGIGLETMVTLGF | 98 | R | AF091580.1 | 7 ... 663 |
| 909 | OR7E23P | 7 | 21 | 20.89 | MAGGELFHLQIMPAFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 910 | OR2E1 | 8 | 6 | 32.05 | AHACCTINLQI.RRRRR | 43 | M | AL078630.1 | 106872 ... 105934 |
| 911 | OR1I1 | 0 | 19 | 17.87 | MHGTSAIQIHLIFGVGS | 57 | R | AF091566.1 | 1 ... 663 |
| 912 | OR1RnP | 3 | 17 | 3.12 | MVGISAVHLHLIEGVVA | 45 | R | M64377.1 | 1 ... 939 |
| 913 | OR4F3 | 0 | 8 | 0.07 | IHGGMVLHFQFVNSICG | 51 | M | AB030896.1 | 1 ... 906 |
| 914 | OR2AEn | 0 | 7 | 98.7 | HLGGCMGNIHIVSSLLL | 49 | M | AC073769.1 | 143294 ... 142353 |
| 915 | OR2InP | 7 | | | ......TTTTTMARILL | 72 | M | AL078630.1 | 151152 ... 150391 |
| 916 | OR52AnP | 2 | | | IHSASVRFPLLGXPPPP | 94 | R | AF079864.1 | 632 ... 1576 |
| 917 | OR7C1 | 0 | 19 | | ITGCNGIGLETIATLGI | 81 | R | AF091580.1 | 7 ... 663 |
| 918 | OR2A3P | 2 | 7 | 149.11 | MLAACTCLINLVGGVLG | 63 | M | AF102521.1 | 22 ... 669 |
| 919 | OR7A5 | 0 | 19 | | MIAGNAMYLQMITVLGG | 74 | M | AF283558.1 | 1 ... 927 |
| 920 | OR2InP | 3 | | | ...........MARILL | 67 | M | AL078630.1 | 151152 ... 150391 |
| 921 | OR7A10 | 0 | 19 | | MLVGNAMNLQMMAVLGG | 76 | R | M64376.1 | 1 ... 999 |
| 922 | OR2An | 0 | | | ................. | 81 | M | AF102521.1 | 22 ... 669 |
| 923 | OR2M2 | 0 | | | IISGCFLDIDAICCMLF | 57 | M | AF102537.1 | 16 ... 669 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 924 | OR7A8P | 2 | 19 | | MLAVSSLNLQMIATLGG | 71 | M | AF283558.1 | 1 ... 927 |
| 925 | OR2An | 0 | | | TSAVCTTLIHL...... | 78 | M | L14566.1 | 62 ... 667 |
| 926 | OR7E20P | 4 | | | MAGGELLFLHIMPAFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 927 | OR2AnP | 3 | | | TLAHCTCLVHL...... | 65 | M | AF102521.1 | 22 ... 669 |
| 928 | OR5BHnP | 7 | | | MVASCGGKTVS...... | 34 | M | Y15525.1 | 1 ... 705 |
| 929 | OR1En | 0 | | | LMGDSLLHLHLIMGISI | 92 | M | AC068902.11 | 196434 ... 195499 |
| 930 | OR1EnP | 1 | | | MLGDSLLHLHLIIGVVL | 98 | M | AF073976.1 | 32 ... 649 |
| 931 | OR5Bn | 0 | 11 | 54.45 | FVITSGCNIHNIVVNDF | 51 | R | U50948.1 | 34 ... 978 |
| 932 | OR8RnP | 12 | 11 | 73.74 | LFLSYGGGAHH...... | 52 | M | AC069561.10 | 7848 ... 8783 |
| 933 | OR5ANn | 0 | 11 | 55.69 | YSGLSGTAFQATLTFGA | 55 | R | AF091564.1 | 7 ... 663 |
| 934 | OR5ANnP | 1 | 11 | 55.69 | YSGLCGTGIQATLTFGT | 59 | M | Y15525.1 | 1 ... 705 |
| 935 | OR5BRnP | 8 | 11 | 55.69 | MSNVCGTVIQATLTFGT | 33 | M | Y15525.1 | 1 ... 705 |
| 936 | OR2A1 | 0 | 7 | 149.18 | TLGHCTCLAHLIACFLG | 77 | M | AF102521.1 | 22 ... 669 |
| 937 | OR10An | 0 | 11 | 6.81 | MLGGCFLLVQWAGTIIV | 54 | M | AF247657.1 | 1 ... 945 |
| 938 | OR2A9 | 3 | 7 | 149.18 | TLAHCTCLVHLIACILG | 78 | M | AF102521.1 | 22 ... 669 |
| 939 | OR2A7 | 0 | 7 | 149.18 | TSAVCTTLIHLVGAGLG | 81 | M | L14566.1 | 62 ... 667 |
| 940 | OR10A3 | 0 | 11 | 6.81 | MLGGCFSVVQWAGTIVV | 58 | M | AF247657.1 | 1 ... 945 |
| 941 | OR10Cn | 0 | 6 | 33.36 | MLGACSCVGHFIATLIC | 59 | M | AL365336.1 | 122764 ... 121784 |
| 942 | OR7A2P | 0 | 19 | | MVIVSVMNLQVMAALDG | 73 | M | AF283558.1 | 1 ... 927 |
| 943 | OR10WnP | 2 | 11 | 54.3 | MIGSCASLQLFVAAAIV | 47 | M | AC012302.5 | 54283 ... 55224 |
| 944 | OR7A17 | 0 | 19 | | MVGGSAINSQMMAALAG | 76 | M | AF283558.1 | 1 ... 927 |
| 945 | OR5Bn | 0 | 11 | 54.3 | MAATNGINIQDLISNVF | 47 | M | AF102528.1 | 52 ... 669 |
| 946 | OR5BnP | 5 | 11 | 54.3 | MVATNGCNLRDLMSNVL | 47 | M | AF102528.1 | 52 ... 669 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 947 | OR1Q1 | 0 | 9 | 106.13 | TIAVNMLHLHLIEGVIG | 54 | M | AF073967.1 | 2 ... 649 |
| 948 | OR2Hn | 0 | 6 | 33.33 | LLGTCVMQVQSLSSFVV | 88 | M | AL078630.1 | 48786 ... 47851 |
| 949 | OR7EnP | 5 | 3 | 90.04 | MVACDVLDLHIIDSFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 950 | OR7A14 | 0 | 19 | 17.72 | MVIVSAMNI........ | 71 | M | AC073772.1 | 227187 ... 226252 |
| 951 | OR1B1 | 0 | 9 | 106.13 | FYGVTLVHLRLIEGLMG | 49 | M | AC068902.1 1 | 83719 ... 84647 |
| 952 | OR12D2 | 0 | 6 | 33.23 | LHGSSTIHLHMLVTIAG | 81 | M | AL359381.1 | 105330 ... 104407 |
| 953 | OR7EnP | 4 | 3 | 11.92 | MVACDVLDLHIIDSFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 954 | OR8BnP | 5 | 15 | 74.31 | LXVVEGMGAHCVVVNIV | 82 | M | AC069559.8 | 96224 ... 95292 |
| 955 | OR1L1 | 0 | 9 | 106.13 | MLGNSLIHLHLVEGVIT | 57 | M | AC023167.7 | 60743 ... 61663 |
| 956 | OR11An | 0 | 6 | 33.36 | FGATCTSVLVLTLSCLI | 76 | M | AL359381.1 | 175785 ... 176720 |
| 957 | OR7AnP | 4 | 12 | 44.29 | ....HLLDCYIRTTLSG | 55 | M | AF102534.1 | 52 ... 669 |
| 958 | OR1C1 | 0 | 1 | 254.35 | LVVNSGVHLHLIVGLAT | 56 | M | AC073769.1 | 133488 ... 132556 |
| 959 | OR1D2 | 0 | 17 | 2.99 | LVVANLLYIHLLTGIFI | 50 | M | AF073967.1 | 2 ... 649 |
| 960 | OR1L3 | 0 | 9 | 106.13 | MLGNSFFHLHLAEGSVA | 53 | M | AC023167.7 | 14677 ... 15636 |
| 961 | OR12DnP | 1 | 6 | 33.36 | LHGSATIHLHMSTGIAG | 76 | M | AL359381.1 | 105330 ... 104407 |
| 962 | OR4G1P | 4 | 16 | 83.04 | KHGGMAIHSQFVNSISG | 47 | M | AB030896.1 | 1 ... 906 |
| 963 | OR2B4P | 1 | 6 | 33.53 | LLGSCGSNVQLLLGLLM | 90 | M | AL359352.1 | 95024 ... 95965 |
| 964 | OR11H1 | 0 | 22 | | FFGTCLCWIPLCLSVIG | 61 | M | AC027184.3 | 54955 ... 54017 |
| 965 | OR4Fn | 0 | 16 | 83.04 | IHGGMVIHSQFVNSLTC | 50 | M | AC019272.4 | 62255 ... 61317 |
| 966 | OR56AnP | 5 | 11 | 4.73 | MNLPSFQLPVLQAGFLS | 38 | M | AF121975.1 | 50 ... 1012 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 967 | OR8NnP | 7 | 4 | 164.13 | REIIRVDAFLKKTANMI | 34 | M | AF102528.1 | 52 ... 669 |
| 968 | OR7EnP | 5 | | | MVACDVLDLHIFFDFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 969 | OR4Pn | 0 | 11 | 50.95 | LHGGIVGHSQLVNSIAV | 56 | M | AB030895.1 | 1 ... 924 |
| 970 | OR6Cn | 0 | | | LIGVFCSTPPLGFATLF | 51 | M | NM_010991.1 | 1 ... 939 |
| 971 | OR5BCnP | 2 | 11 | 54.3 | .....GCQIHFLLANIF | 41 | M | AC069561.10 | 51687 ... 50743 |
| 972 | OR10QnP | 4 | 11 | 54.3 | MLGGCGLLQLLLVSVLV | 48 | M | AC012302.5 | 54283 ... 55224 |
| 973 | OR5BnP | 6 | 11 | 54.3 | TDASNGGNIHELVTNIF | 45 | R | U50948.1 | 34 ... 978 |
| 974 | OR10PnP | 2 | 12 | 115.61 | MIGICTTTTHLVATFII | 46 | M | AF247657.1 | 1 ... 945 |
| 975 | OR1L4 | 0 | 9 | 106.22 | MMGNSGIHFRLVETVIT | 62 | M | AF073967.1 | 2 ... 649 |
| 976 | OR2APnP | 3 | 12 | 115.61 | YMGAFLLLLLL...... | 49 | M | AF073987.1 | 2 ... 649 |
| 977 | OR1L6 | 0 | 9 | 106.22 | MMGNSGIHFRLVETVIT | 63 | M | AF073967.1 | 2 ... 649 |
| 978 | OR6UnP | 6 | 12 | 115.61 | DIGAFTLFMPLDLAALG | 52 | M | NM_010991.1 | 1 ... 939 |
| 979 | OR5C1 | 0 | 9 | 106.06 | MAADCAGSVHLLICIQA | 50 | R | X80671.1 | 203 ... 1129 |
| 980 | OR11InP | 1 | 15 | 70.72 | FGAACGCLITLATSVTI | 51 | M | AL359381.1 | 175785 ... 176720 |
| 981 | OR4AnP | 6 | 11 | 50.78 | LYGGVVGHFQVVNGVCV | 57 | M | AB030896.1 | 1 ... 906 |
| 982 | OR4GnP | 14 | 2 | 114.45 | ICRKMAVHSQFVNSISA | 42 | M | AB030892.1 | 1 ... 939 |
| 983 | OR10Vn | 0 | 11 | 56.15 | MVGGCGLLPLLLISVLI | 48 | M | AL136158.14 | 29455 ... 30402 |
| 984 | OR4G2P | 2 | 2 | 114.45 | KHGGMAIHSQFVNSISG | 48 | M | AB030896.1 | 1 ... 906 |
| 985 | OR10VnP | 3 | 11 | 56.15 | MIGRCGLLQLLMVSFLV | 45 | M | X92969.1 | 8035 ... 8961 |
| 986 | OR4F4 | 0 | 2 | 114.45 | IHGGMVIHSQFVNSLTC | 50 | M | AC019272.4 | 62255 ... 61317 |
| 987 | OR4G3P | 14 | 19 | 63.51 | ICRKMAVHSQFVNSISA | 42 | M | AB030892.1 | 1 ... 939 |
| 988 | OR5AKnP | 4 | 11 | 52.82 | LGATCSMNINFLFVNLC | 65 | R | U50948.1 | 34 ... 978 |
| 989 | OR10YnP | 14 | 11 | 56.15 | MIRGCGLLFLLLCGHHL | 43 | M | AF247657.1 | 1 ... 945 |
| 990 | OR4GnP | 2 | 19 | 63.51 | KHGGMAIHSQFVNSISG | 48 | M | AB030896.1 | 1 ... 906 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 991 | ORnP | 9 | 5 | 111.92 | IMCSRTTYVXQLHGFFT | 23 | M | AF073989.1 | 547 ... 1515 |
| 992 | OR4Fn | 0 | 19 | 63.51 | IHGGMVIHSQFVNSLTC | 50 | M | AC019272.4 | 62255 ... 61317 |
| 993 | OR8A1 | 0 | 11 | 137.56 | LLVICVIGIELVSANIV | 61 | M | AC069559.8 | 96224 ... 95292 |
| 994 | OR8Bn | 0 | 11 | 137.56 | LCVVSGMGAHSVVVDVM | 66 | M | AC069559.8 | 120212 ... 119283 |
| 995 | OR6DnP | 3 | 10 | 47.91 | AYVSSLLLRTH...... | 55 | R | AF034901.1 | 2110 ... 3078 |
| 996 | OR7E14 P | 7 | 11 | 16.31 | MAGGELLDLHIMPAFGL | 58 | R | AF091580.1 | 7 ... 663 |
| 997 | OR2M4 | 0 | | | IVLGCALDIVALCCMLF | 57 | M | AF102537.1 | 16 ... 669 |
| 998 | OR4WnP | 3 | X | | LLLLL......LLFFII | 36 | M | AC069559.8 | 73704 ... 74636 |
| 999 | OR4Fn | 0 | 19 | 63.51 | IHGGMVIHSQFVNSLTC | 50 | M | AC019272.4 | 62255 ... 61317 |
| 1000 | OR7EnP | 3 | | | MAGGESLDLHIMPAFGL | 57 | M | AF073989.1 | 547 ... 1515 |
| 1001 | OR4GnP | 4 | 19 | 63.51 | KHGGMAIHSQFVNSISG | 47 | M | AB030896.1 | 1 ... 906 |
| 1002 | OR10Jn P | 1 | | | LLGVCGITIQSTISVLL | 60 | M | X92969.1 | 8035 ... 8961 |
| 1003 | OR52En | 0 | 11 | 4.58 | MHTASIRMPLLGNILLL | 71 | M | AF121979.1 | 53 ... 1106 |
| 1004 | OR4RnP | 24 | 11 | | VHGAIMGHVXSFANNCL | 54 | M | AF102522.1 | 40 ... 660 |
| 1005 | OR4Cn | 0 | 11 | | AHGAIVGHIQFVNSICL | 75 | M | AF102522.1 | 40 ... 660 |
| 1006 | OR4AnP | 10 | 11 | | GLGGIVGHIQL...... | 44 | M | AF102522.1 | 40 ... 660 |
| 1007 | OR4AnP | 4 | 11 | | LHGGVAGHFQVVNGGCI | 55 | M | AB030895.1 | 1 ... 924 |
| 1008 | OR4AnP | 8 | 11 | | LHGGVAGHSHSVNGICV | 54 | M | AF102522.1 | 40 ... 660 |
| 1009 | OR9Gn | 0 | 11 | 52.54 | FAAYCVGNIIKMLLNVC | 46 | M | AC074177.4 | 106297 ... 105361 |
| 1010 | OR10An | 0 | 12 | 59.65 | MFGSCGSVLQWASTFIF | 64 | M | AF247657.1 | 1 ... 945 |
| 1011 | OR4Cn | 0 | 11 | | VHRGVVGHIQFINSICL | 73 | M | AF102522.1 | 40 ... 660 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 1012 | OR10VnP | 8 | 11 | 56.15 | .FFFFIIXNEXSVVVLV | 37 | M | AC073945.4 | 110931 ... 111893 |
| 1013 | OR10UnP | 3 | 12 | 59.65 | MAGLCATVAQLMLSFIS | 56 | R | AF034898.1 | 1 ... 981 |
| 1014 | OR7E2P | 3 | 11 | 90.37 | MVACDVLDLHICDIFGL | 59 | M | AF073989.1 | 547 ... 1515 |
| 1015 | OR7E35P | 6 | 4 | 11.87 | MAGGEFLDLHIVPAFVL | 53 | M | AF102536.1 | 22 ... 669 |
| 1016 | OR9KnP | 0 | 12 | 59.71 | LAIVGGCSLQVSLSIIP | 49 | R | AF091579.1 | 7 ... 663 |
| 1017 | OR7E13P | 5 | 11 | 90.37 | MAGGEFLDLHIMLAFGL | 54 | R | AF091580.1 | 7 ... 663 |
| 1018 | OR7EnP | 4 | 8 | 6.5 | MLACGVLDLHIIDSFGL | 55 | M | AF102536.1 | 22 ... 669 |
| 1019 | OR9Kn | 0 | 12 | 59.71 | LAIVGGCSIQMSLSIIP | 49 | M | NM_013728.1 | 1 ... 948 |
| 1020 | ORnP | 13 | 11 | 137.56 | PCVIYGIDVHSLXEPAY | 34 | M | AC069559.8 | 36251 ... 35322 |
| 1021 | OR7EnP | 8 | 11 | 72.11 | MAGGNLFFSLLMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 1022 | OR7EnP | 5 | 3 | 140.64 | MAGGKFLDLHIMPAFGL | 53 | M | AF073989.1 | 547 ... 1515 |
| 1023 | OR3A4P | 0 | 17 | 3.12 | LHAGCMFNTQALAAMGA | 44 | M | AC073769.1 | 133488 ... 132556 |
| 1024 | OR8QnP | 9 | 11 | 137.56 | LSIIIVETEFVFTXIVT | 33 | M | AC069559.8 | 137090 ... 138039 |
| 1025 | OR7EnP | 2 | 11 | 72.11 | ILACGVLDLHIMHNFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 1026 | OR7EnP | 3 | 3 | 140.64 | MVACGVLDLHIIHSFGL | 56 | M | AF073989.1 | 547 ... 1515 |
| 1027 | OR3A1 | 0 | 17 | 3.07 | LHVGCACNTHALVGMAT | 50 | M | AF073967.1 | 2 ... 649 |
| 1028 | OR5Gn | 0 | 11 | 52.52 | MGEACGMSTHFLLAIGL | 69 | M | AF146372.1 | 509 ... 1456 |
| 1029 | OR5MnP | 7 | 4 | 42.45 | LIIIYVYNAQRIIIMLE | 39 | M | AF073987.1 | 2 ... 649 |
| 1030 | OR7EnP | 1 | 3 | 136.02 | MVACDVLDLHIIDNFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 1031 | OR5G1P | 2 | 11 | 52.51 | QGVACGINTHNVVAVGF | 68 | M | AF146372.1 | 509 ... 1456 |
| 1032 | OR5PnP | 3 | 11 | 6.93 | LVGTCAGNSFCPSSVLS | 70 | M | AF121977.1 | 262 ... 1197 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 1033 | OR10AEnP | 8 | 1 | 157.36 | IIIIIGIMVIVQIHCVV | 40 | M | X92969.1 | 8035 ... 8961 |
| 1034 | OR3A2 | 0 | 17 | 3.07 | LHAGCACNTHALVGMAT | 50 | M | AC073769.1 | 133488 ... 132556 |
| 1035 | OR10Jn | 0 | 1 | 157.4 | MVATCGIMLHANVSVIV | 88 | M | X92969.1 | 8035 ... 8961 |
| 1036 | OR1D3P | 2 | 17 | 2.94 | LVVANLFYIHLLTGIFI | 50 | R | Y07557.1 | 1 ... 942 |
| 1037 | OR10Jn | 0 | 1 | 157.36 | TVAICGIMVQSNVRVIV | 72 | M | X92969.1 | 8035 ... 8961 |
| 1038 | OR1D4 | 0 | 17 | 2.99 | LVVTNLLYLLLLTGIFT | 49 | R | Y07557.1 | 1 ... 942 |
| 1039 | OR5GnP | 8 | 11 | 52.51 | QGVVYVANTHAVVAVLV | 55 | M | NM_013728.1 | 1 ... 948 |
| 1040 | OR4SnP | 1 | 11 | 50.99 | LHGCIGGHIQLVNSIAG | 61 | M | AB030895.1 | 1 ... 924 |
| 1041 | OR5GnP | 4 | 11 | 52.51 | LGVVCGVSTHFLLVLGL | 75 | M | AF146372.1 | 509 ... 1456 |
| 1042 | OR9HnP | 2 | 1 | 254.35 | FSGIAGWNAQMLLCIIS | 59 | R | AF091579.1 | 7 ... 663 |
| 1043 | OR1A1 | 0 | 17 | 2.99 | MIGNSGINPHLMGVIFV | 86 | M | AF073966.1 | 41 ... 643 |
| 1044 | OR1A2 | 0 | 17 | 2.99 | MIAKSGISPHLMLGVFL | 80 | M | AF073966.1 | 41 ... 643 |
| 1045 | OR8AnP | 6 | 11 | 137.68 | FLVICVMVIELVFANLI | 50 | M | AC069561.10 | 51687 ... 50743 |
| 1046 | OR1P1P | 1 | 17 | 2.99 | LLGDIALLTRLLLGVII | 82 | M | AF102538.1 | 139 ... 675 |
| 1047 | OR7E12P | 7 | 11 | 1.92 | MAGGEFFSLHIMPAFGL | 55 | M | AF073989.1 | 547 ... 1515 |
| 1048 | OR4A1P | 4 | 11 | | LHGGVVGHFQVVNGICV | 57 | M | AB030896.1 | 1 ... 906 |
| 1049 | OR10G3 | 0 | 14 | 1.7 | LHGSCGAHLQLTDIVVS | 91 | M | AF259072.1 | 19582 ... 18644 |
| 1050 | OR10G1P | 3 | 14 | 1.7 | LHGSCGAHIQLTDIVAS | 93 | M | AF259072.1 | 55611 ... 54658 |
| 1051 | OR10G2 | 0 | 14 | 1.7 | LHGSCGAHIQLTDVVAS | 91 | M | AF259072.1 | 55611 ... 54658 |
| 1052 | OR5Tn | 0 | 11 | 51.94 | MVGTCAAHIHALFVIEV | 52 | M | AF121977.1 | 262 ... 1197 |
| 1053 | OR7EnP | 8 | 3 | 136.02 | MVACGVLDLHIIGSFGL | 53 | R | AF091580.1 | 7 ... 663 |
| 1054 | OR7EnP | 5 | 3 | 136.02 | MAGGKFLDLHIMPAFGL | 54 | M | AF073989.1 | 547 ... 1515 |
| 1055 | OR4AnP | 2 | 11 | 50.93 | LHAGVVGHVQFMNGICV | 61 | M | AB030895.1 | 1 ... 924 |
| 1056 | OR4C1 | 1 | 11 | 50.93 | LHGGIIGHVQFVNSMCL | 66 | M | AB030896.1 | 1 ... 906 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 1057 | OR1EnP | 7 | 17 | 2.9 | .....MMMYTLIMGILI | 80 | M | AF073961.1 | 32 ... 649 |
| 1058 | OR7KnP | 11 | 14 | 5.99 | MIGCNFIELYMMIGIFG | 49 | R | AF091580.1 | 7 ... 663 |
| 1059 | OR4CnP | 3 | 11 | 50.93 | LHDGIEGHIQFVNSMCA | 61 | M | AF102522.1 | 40 ... 660 |
| 1060 | OR1RnP | 11 | 17 | 2.9 | MVGISAVHLHLIEGVVA | 44 | R | M64377.1 | 1 ... 939 |
| 1061 | OR5AUn | 0 | 14 | 1.22 | MAATCGANIHCLFANLS | 51 | M | AC069559.8 | 85584 ... 84655 |
| 1062 | OR4Cn | 0 | 11 | 50.96 | LHAGVVGHIQFVNSICI | 69 | M | AF102522.1 | 40 ... 660 |
| 1063 | OR4Cn | 0 | 11 | 50.96 | VHGCIVGHVQLLNSICV | 57 | M | AB030895.1 | 1 ... 924 |
| 1064 | OR13DnP | 2 | 9 | 86.89 | MLGSCWITLRLFTVIVL | 58 | M | AJ251154.1 | 2703 ... 1747 |
| 1065 | OR5n | | | | ASASLTSYVHNEEEVFV | 44 | M | AL359352.1 | 111313 ... 112242 |
| 1066 | OR2Hn | | | | LLGTCVMQVQSLSSLVV | 83 | M | AL078630.1 | 48786 ... 47851 |
| 1067 | ORn | | | | ................. | 25 | M | AC074177.4 | 88434 ... 88916 |
| 1068 | ORn | | | | .....EINLLLARGKAL | 29 | M | AF283814.1 | 1 ... 930 |
| 1069 | ORn | | | | NNNNNFXSLHLCCCILI | 29 | M | AC074177.4 | 128803 ... 129726 |
| 1070 | ORn | | | | TLLLLTFQHHL...... | 27 | M | L14569.1 | 62 ... 667 |
| 1071 | OR6Fn | | | | ..CCCWPIPTSAIAVIS | 46 | R | M64386.1 | 130 ... 975 |
| 1072 | ORn | | | | ...........ILLLLL | 33 | R | U50947.1 | 418 ... 1350 |
| 1073 | ORn | | | | ..CCCLIPFFFTSGYSW | 24 | R | M64392.1 | 1 ... 942 |
| 1074 | OR10An | | | | PLGECDPEEQMYVGLVM | 51 | M | AF247657.1 | 1 ... 945 |
| 1075 | ORn | | | | IPNASRRRRRR....PP | 25 | R | M64388.1 | 1 ... 942 |
| 1076 | OR2Ln | | | | FLAGAGINAHYVSTFLF | 51 | M | AF102527.1 | 22 ... 669 |
| 1077 | OR10Jn | | | | LTGICGIMVQSNVSVLL | 57 | M | X92969.1 | 8035 ... 8961 |
| 1078 | OR1Kn | | | | LLLLLMVNLYLIKGVVT | 50 | R | M64377.1 | 1 ... 939 |
| 1079 | OR10Dn | | | | LHGSCGLHILLSNVISG | 69 | M | AC074177.4 | 12106 ... 13038 |
| 1080 | ORn | | | | ...........CCCIII | 41 | R | M64376.1 | 1 ... 999 |

| SEQ ID # | Symbol | D | C | Mb coord | CDR | % | S | Acc | Range |
|---|---|---|---|---|---|---|---|---|---|
| 1081 | OR2Ln | | | | SLACGGLNAHFVRTLSF | 52 | M | AF102537.1 | 16 ... 669 |
| 1082 | ORn | | | | HHHHHRLESSSLLLLLL | 38 | M | AC073945.4 | 152209 ... 153150 |
| 1083 | ORn | | | | ...........LLLLLS | 27 | M | AL365336.1 | 41087 ... 41711 |
| 1084 | OR2n | | | | ...........GGGGGG | 57 | M | AF102521.1 | 22 ... 669 |

Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it will be apparent to those skilled in the art that various changes and modifications can be practiced without departing from the spirit of the invention. Therefore the foregoing descriptions and examples should not be construed as limiting the scope of the invention.

All patents, patent applications, and publications cited herein are hereby incorporated by reference in their entirety. In particular, the following documents are hereby incorporated by reference in their entirety: United States Provisional Patent Applications Serial Nos. 60/145,412, filed July 23, 1999; 60/155,126, filed September 22, 1999; 60/158,495, filed October 8, 1999; 60/158,615, filed October 8, 1999; 60/181,113, filed February 8, 2000; 60/181,115, filed February 8, 2000; 60/184,809, filed February 24, 2000; 60/188,332, filed March 9, 2000; and United States Patent Applications Serial Nos. 09/620,753, filed July 21, 2000; and 09/621,122, filed July 21, 2000.

## CLAIMS

What is claimed is:

1. An isolated and purified polynucleotide sequence encoding an olfactory receptor and having the nucleotide sequence selected from the group consisting of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a nucleotide sequence that is at least about 95% homologous to a nucleotide sequence of the group consisting of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152 and encoding a polypeptide having olfactory receptor function.

2. An expression vector comprising a polynucleotide sequence of claim 1.

3. A host cell comprising the expression vector of claim 2.

4. An isolated and purified olfactory receptor polypeptide comprising the translated sequence of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of the translated sequence of SEQ ID NO:1 through SEQ ID NO: 73 and SEQ ID NO:111 through SEQ ID NO:152 and having olfactory receptor function.

5. A host cell expressing a polypeptide of claim 4 or a functional fragment thereof.

6. A phage expressing a polypeptide of claim 4 or a functional fragment thereof.

7. A preparation containing a polypeptide of claim 4, further comprising biological or synthetic molecules which maintain the functional structure of the polypeptide.

8. An isolated and purified polynucleotide sequence encoding an olfactory receptor and having the nucleotide sequence selected from the group consisting of SEQ ID NO: 153 through SEQ ID NO: 1084 or a nucleotide sequence having a sequence at least about 95% homologous to a nucleotide sequence of the group consisting of SEQ ID NO: 153 through SEQ ID NO: 1084 and encoding a polypeptide having olfactory receptor function.

9. An expression vector comprising a polynucleotide sequence of claim 8.

10. A host cell comprising the expression vector of claim 9.

11. An isolated and purified olfactory receptor polypeptide comprising the sequence of SEQ ID NO: 1085 through SEQ ID NO: 2008, or a polypeptide sequence that is at least about 95% homologous to a polypeptide sequence of the group consisting of SEQ ID NO: 1085 through SEQ ID NO: 2008 and having olfactory receptor function.

12. A host cell expressing a polypeptide of claim 11 or a functional fragment thereof.

13. A phage expressing a polypeptide of claim 11 or a functional fragment thereof.

14. A preparation containing a polypeptide of claim 11, further comprising biological or synthetic molecules which maintain the functional structure of the polypeptide.

15. A library of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising the expression products of at least two polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

16. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 50 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

17. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 100 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

18. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 200 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

19. A library of olfactory receptors according to claim 15, wherein the library comprises the expression products of at least 500 polynucleotides of SEQ ID NO:1 through SEQ ID NO: 73, SEQ ID NO:111 through SEQ ID NO:152, and SEQ ID NO: 153 through SEQ ID NO: 1084 wherein said polynucleotides encode functional olfactory receptors; or functional fragments of said expression products.

20. A library of olfactory receptors suitable for determining the interaction pattern of a composition with the receptors, comprising at least two polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

21. A library of olfactory receptors according to claim 20, wherein the library comprises at least 50 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008,

wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

22. A library of olfactory receptors according to claim 20, wherein the library comprises at least 100 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

23. A library of olfactory receptors according to claim 20, wherein the library comprises at least 200 polypeptides of SEQ ID NOS of SEQ ID NO: 1085 through SEQ ID NO: 2008, wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

24. A library of olfactory receptors according to claim 20, wherein the library comprises at least 500 polypeptides of SEQ ID NO: 1085 through SEQ ID NO: 2008, wherein said polypeptides are functional olfactory receptors; or functional fragments of said polypeptides.

25. A method for determining the binding pattern of a composition with olfactory receptors, comprising the steps of:

exposing the composition to a library according to claim 21; and

determining whether the composition binds to each olfactory receptor, thereby determining the overall binding patter of the composition.

26. The method of claim 25, wherein the composition consists essentially of one compound or chemical.

27. The method of claim 25, wherein the composition comprises at least two compounds or chemicals.

28. The method of claim 25, wherein the step of determining whether the composition binds to each olfactory receptor further comprises a determination of the

approximate binding constant with which the composition binds to each receptor or functional fragment thereof.

29. The method of claim 25, further comprising the step of determining whether a receptor or functional fragment thereof to which the composition binds is activated.

30. The method of claim 29, futher comprising the step of determining the absolute or relative amount by which the receptor or functional fragment thereof is activated.

31. A DNA array or a DNA chip comprising DNA segments derived from SEQ ID NO: 153 through SEQ ID NO: 1084.

32. A method of determining differences among individuals with respect to their olfactory faculties, comprising the steps of comparing the olfactory DNA of the individual against the array or chip of claim 31.

33. A method to determine single nucleotide polymorphisms in olfactory receptors, comprising the steps of uniquely amplifying olfactory receptor sequences from DNA obtained from one or more individuals, based on primers designed according to the first 25 bases and the last 25 bases of any combination of, or each of, SEQ ID NO: 153 through SEQ ID NO: 1084, and determining the similarities and differences between said amplified DNA and the corresponding receptor from SEQ ID NO: 153 through SEQ ID NO: 1084.

FIGURE 1

SEQ. ID NO:1

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  1 GGNTTATNCC NCGTTGNACT GCAGGGGNNC AACNCACAGN ACGCCCGNTG CTGAGGCTAT AAATGANCGG
 71 NTTAAGGAGA GGAGTGAAGA CAGTAAAAAA ACACAGAGAT AAATTTATCA ATTGGGAAGC TTTCAAAGGG
141 CCAAATATAG ATGAATATTA ATGGGCCAAA GAAGAGAAGC ACAACAGTAA TGTGGGCAGA CAGAGTGGAA
211 AGGGCCTTGG ACATCCCATC AGAGGCTTGG CGATGCACAG TAGCAAGGAT GATAGTGTCA GAAATGAGCA
281 AAAGGAGGAA ACACATAAGT GAGAGCAGAC CACTGTTAGT GAGCACCAGT ATCTCAAAAC CATAGGTGTC
351 TAAGCAGGCA AGCTTGATCA CTAGGAGGAG GTCACAGAAA AAATTGTCTA CCCTGTTGGG TCCACAGAAA
421 GGCAGATTGA CTTTGAATGC CAGGTGGGTG GCTGAGTGTG AGATGCCAAT GGCCCAGGAA ACCCCCACCA
491 GAACAGTTCA CACCCTCCGG TTCATGATGG TTATGTAGTG CAGAGGTTTG CATATAGCAA TGTATCTATC
561 ATAGGCCATG GCAACAAGAA GCACCATCTC ACTACCCCCA AAAACATGCA AGN
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SEQ. ID NO:2

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  1 GGNNTNTNAC ACGGACTCCA AGCAGTGGTA ACAACGCAGA GTACGCCCGT TCCTGAGTGA GTAGATGAAG
 71 GGGTTCAGCA TGGGATTGAT GACAGTGTTG AAAATTCCAA CAGCTTTATC CTTGTCTGAA AGCTTGGTTG
141 AACCCAGTCG CATATAGTTA AAGATACCTG AACCATAGAA TATGGCAACC ACAGTGAGGT GGGAGCCACA
211 TGTGGAGAAG GCTTTCTTCC TGCCCTCTAC AGAGCGAATT CGCAGGACTG CAGCTGCCAC GTGGATATAG
281 GAGATGACAA TGAGAGCCAT GGGGGTACCT GCCATTATAA AACCCACAGC AAAAAGCAGC AGCTCATTGA
351 GTTGGGTGCT GGAGCAGGAG AGCTGGAAGA GCTGTGGGAG GTCACAGTAG AAGTGATTGA TCACATTGGG
421 GCCACAGAAG TTGAGCGTGG ACATGGCCAC AGTGTGGGTC AGTGCGTTGG TGAAAGCACA AGCCCAGGAC
491 GCAGCCACCA ACATCCTCTG GACTGTCTGA CTCATGCGGG TGCTTGTAGG TGAGGGGCCC GGCAGATGGG
561 CAGGAATCGG TCATAGGG
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SEQ. ID NO:3

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 71 AGATTAGGGG GTTCAGTAGG GGAGTGATGA CAGTGTAGGT CACCGAGATC AGCTGGTCAT GTTCTCTGGT
141 GTTCTCTGAC TTGGGCTTGA GGTAGGCAAT GGAGGCACAG CTGTAGTGGA CAATGACCAC AGTGAGGTGG
211 GATGCACAGG TGGCAAAAGC CTTCTTCCGG CCCTCAACTG AAGTAATCTT GAGGATTGTA GAGATAATGA
281 GAACATAAGA AATGAAAACC AGACCCATAG GTACAACAAG CACCAGCACA CTGATAATCA AAGTCAGGAT
351 TTCATTGACA GTGGTGTCAA TGCAGGAGAG CTTCATCACA GGGCGGATGT CACAGAAGAA GTGGGGCACC
421 TTTTCTAGCA CAGAAGGGTA ACCTGAATAC AGATGTCACT TGCGTTATTG CTACAATCAG CCCAATGCTG
491 CAAGGCCCCC AGGACAAGTT GGATACGCAG CCTCTTGTTC ATAATAACCA TGTATCTCAA GGGGGTTGCA
561 AGATGGCCAC ATAGCNGNTC ATATTCCN
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SEQ. ID NO:4

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 71 TTTGAGAAAC TTGTCTTTCT TAGATTTTTG TTACATCTCT GTCACAATTC CAAAATCTAT TGTTAGTTCC
141 TTGACTCATG ATACTTCCAT TTCTTTCTTT GGGTGTGCTC TGCAAGCCTT CTTTTTCATG GACTTGGCAA
211 CTACGGAGGT AGCCATCCTT ACAGTGATGT CCTGTGACCG CTATATGGCC ATCTGCCGGC CTTTACATTA
281 TGAGGTCATC ATAAACCAAG GTGTCTGTCT GAGGATGATG GCCATGTCGT GGCTCAGTGG GGTGATCTGT
351 GGATTCATGC ATGTGATAGC AACATTCTCA TTACCATTCT GTGGGCGCAA TAGAATACGT CAATTTTTCT
421 GTAATATTCC ACAACTNCTA AGCCTCTTAG ACCCCAAAGT AATTACCATT GAGATTGGAG TCATNGGNTT
491 TTGGTACAAG TCTTGNGATA ATCCTCTTTG NTGNAATTAC TCTCTCCTAC ATGTNCATTT TTTTTTGNCA
561 TCATGAGGGA TTCCTTCTAA AGG
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SEQ. ID NO:5

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  1 GNGGNTTNNT NCCNCCNTTG GACTCCAAAG CAGTGGTAAC AACGCAGAGT ACGCCCGTGT GTAAATGAAT
 71 GGGTTCAACA TGGGAGTCAT AACAGTGTAG GACAATGATA GCAGCTTCGT GCCCTCAGGT GAATTATTTG
141 ATTTAGGCCG GAAGTAGGTG AGGCTTAATG ATATATAGAA AAGAGAGACA ACAAGGAGGT GTGAGGAACA
211 TGTAGAAAAG GCTTTATTCT TCCCTTTAGC TGATGGGATC TTGAGGATGG CAGCAGCAAT GCGAGTATAG
281 GAACACAAGA TCAGCAAGCA GGGGATCATG ACCACCAGAA TGGTTCCGAC GATGGCGTAG ATCTCAAACA
351 GTGCTGTGTC TGCACAGACC AGCCTCAGCA CAGGTGGGCT GTCACAGAAG AAGTGGTTCA CCTTGTTGGT
421 GCCACAGAAT GGAAAACTGA AGAGCCATGT GGTCTGCACA GTAGCTACAG GAAAGCCTGG GAACCAGGAG
491 GCAGCAGCCA GTTTGGCACG AGTCCTTTGG TTCATGATGA CTGGGTAGTG CAAGGGACTN GCAGATNNNC
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561 NCATTCGGTC ATATGNCATG GNAG

SEQ. ID NO:6

1 CNTTGGAGCT CCAAAGCAGT GGTAACAACG CAGAGTACGC CCGCTCCGCA GAGAATAGAT GAAAGGGTTC
71 AGGGTCGGGG GCACGACTGT GTAGAACGCA GACAGGAAAA CATCCAGAAC GGGGGGAGAA TTTGAAATTG
141 GCTTCACATA GGCAATGCTG CCAGATATCA TAAAGAGTGT TACAACCACA AGATGTGGAA TGCAGGTAGA
211 AAATGTTTTT GATCTACCCT CCTTAGAAGG AATCCTCATG ATGACAGAAA AAATGTACAT GTAGGAGAGA
281 GTAATTACAA CAAAGGAGAT TATCACAAGA CTTGTACCAA AAACCATGAC TCCAATCTCA ATGGTAATTA
351 CTTTGGGGTC TAAGAGGCTT AGGAGTTTGT GGAATATTAC AGAAAAATTG ACGTATTCTA TTGCGCCCAC
421 AGAATGGTAA TGAGAATGTT GCTATCACAT GCATGAATCC ACAGATCACC CCACTGAGCC ACGACATGGC
491 CATCATCCTC AGACAGACAC CTTGGTTTAT GATGACCTCA TAATGTAAAG GCCGGCAGGA TGGCCATATA
561 GCGGTCATAG GA

SEQ. ID NO:7

1 GCAGTGGTAA CAACGCAGAG TACCGCCCCC TATGTACTTT TTCTTGGGAA ACTTGTCTGT GTTTGACATG
71 GGTTTCTCCT CAGTGACTTG TCCCAAAATG CTGCTCTACC TTATGGGGCT GGGCCGACTC ATCTCCTACA
141 AAGACTGTGT CTGCCAGCTT TTCTTCTTCC ATTTCCTCGG GAGCATTGAG TGCTTCTTGT TTACGGTGAT
211 GGCCTATGAC CGCTTCACTG CCATCTGTTA TCCTCTGCGA TACACAGTCA TCATGAACCC AAGGATCTGT
281 GTGGCCCTGG CTGTGGGCAC ATGGCTGTTA GGGTGCATTC ATTCCAGTAT CTTGACCTCC CTCACCTTCA
351 CCTTGCCACA CTGTGGTCCC AATGAAGTGG ATCACTTCTT CTGTGACATT CCAGCACTGT TGCCCTTGGC
421 CTGTGCTGAC ACATCCTTAG CCCAGAGGGT GAGCTTCACC AACGTTGGCC TCATATCTCT GGCTGCTTTC
491 TGCTAAATCT TTTATCCTAC ACTAGAATCA CAAATATCTA TCTTAAGCAT TCGTACAAC

SEQ. ID NO:8

1 GGAACAACGC AGAGTCGCCC CCGATGTACT TGTTCTTCTC CAACCTGTCC TTTGCTGACA TTTGTGTTAC
71 TTCCACCACC ATTCCAAAAA TGCTGATGAA CATCCAGACA CAGAACAAAG TCATCACCTA CATAGCCTGC
141 CTCATGCAGA TGTATTTTTT CATACTCTTT GCTGGATTTG AAAACTTCCT CCTGTCCGTG ATGGCCTATG
211 ACCGGTTTGT GGCCATCTGT CACCCCCTGC ACTACATGGT CATTATGAAC CCTCACCTCT GTGGACTGCT
281 GGTTCTGGCA TCCTGGACCA TGAGTGCTCT GTATTCCTTG CTACAAATCT TAATGGTAGT ACGACTGTCC
351 TTCTGCACAG CCTTAGAAAT CCCCCACTTT TTCTGTGAAC TTAATCAGGT CATCCAACTT GCTTGTTCTG
421 ATAGCTTTCT TAATCACATG GTGATATATT TTACAGTTTG CGCTGCTGGG TGGAGGTCCC TGACTGGGAT
491 CCTTTACTTC TTACTCTAAG ATAATTTCTT CATACATGCA ATCTCANCAA GNTCAGGG

SEQ. ID NO:9

1 GGGTTTTNAC CCNNTNGGAG CTCCNAGCAG TGGTAACAAC GCAGAGTACG CCCGTTTCGT AGGCTATAAA
71 TGAAGGGGTT GAGTGAGGGA GTCACCACTC CATAGAAGAG GGCCATGAAC TTGGGTTGAT CCCTTGAGAT
141 GGAGGAGGGG GGCTGAAGGT ACATGCTGAT GGCTGGGCCA TAAAATAAGA AAACTACAAT AAGATGGGAG
211 GAGCATGTCC CAAAGGCCTT TNTCCTTCCC TTGGAAGATT TGATCTTAAA TACAGCACTT NCAATACTAG
281 CATAGGAAGC AAGAATTAAG CATANTGGGA CAGCTAACAT AAAAATGCAT ACCACAGAGA GTGTGAGCTC
351 GTTAGAACCC TTTTCACCAC AGGCAATCTT TATCAGAACA GGAATCTCAC ACACCAAGTG GTCCAGCTTA
421 TTGAGACCAC ACAGTGGNAA TTTGTATTGT GGCAGTGGCC CTCTGAGAAC GGCATAGATT ATACCAANTT
491 AACCACNACN GCGGNAACTA ANGATTCAGA CGCNCTGGAT TCATGATGAG GGTNTAGTGA AGAGGTTNTC
561 AGAATGGCCA CATACCGNTC AAA

SEQ. ID NO:10

1 GCTGCTNCCA GCAGTGGTAA CAACGCANAG TACGCCCCCA ATGTATTTGT TCTTCGGCCA TCTGTCTCTC
71 CTGGATGTCT GCTTCATCAC CACTACCATC CCACAGATGT TGATCCACCT CGTGGTCAGG GACCACATTG
141 TCTCCTTTGT ATGTTGCATG ACCCAGATGT ACTNTGTCTT CTGTGTTGGT GTGGCCGAGA GCATCCTCTT
211 GGCTTTCATG GCCTATGACC GNTATGNTGC TATCTGCTAC CCACTTAACT ATGTCCCGAT CATAAGCCAT
281 AAGGTCTGTG TCAGGCTTGT GGGAACTGCC TGGNTCTTTG GGCTGATCAA TGGCATCTTT NTCGGGTATA
351 TTTCATTCCT AGAGCCCTTC CGCAGAGACA ACCACATAGA AAGCTTCTTC TGCGAGGCCC CCATAGTGAT
421 TTGGCCTCTT TTGTGGGGGA CCCTNANANT AGTCTGTGGG CAAATCTTTN GCCGATGCCA TCGTGGTAAT
491 TCTNAGNCCC ATNGGTGCTN ACTGNTACTT ACCTATNTGC ACATTCCTGT CCACCATCCT AGNNAAAGTC
561 CTCCTTCTN

SEQ. ID NO:11

1 GGNNTTTTAC CNCNATTGGA GCTCCAAAGC AGTGGTAACA ACGCAGAGTA CGCCCCCTAT GTACTTGTTC
71 TTGAGAAACT TGTCTTTCTT AGATTTTTGT TACATCTCTG TCACAATTCC AAAATCTATT GTTAGTTCCT
141 TGACTCATGA TACTTCCATT TCTTTCTTTG GGTGTGCTCT GCAAGCCTTC TTTTTCATGG ACTTGGCAAC
211 TACGGAGGTA GCCATCCTTA CAGTGATGTC CTATGACCGC TATATGGCCA TCTGCCGGCC TTTACATTAT
281 GAGGTCATCA TAAGCCAAGG TGTCTGTCTG AGGATGATGG CCATGTCGTG GCTCAGTGGG GTGATCTGTG
351 GATTCATGCA TGTGATAGCA ACATTCTCAT TACCATTCTG TGGGCGCAAT AGAATACGTC AATTTTTCTG
421 TAATATTCCA CAGCTCCTAA GCCTCTTAGA CCCCAAAGTA ATTACCATTG AGATTGGAGT CATGGTTTTT
491 GGTACAAGGC TTGNGATAAT CTNCTTTGGT GNAATTACTC TCTCCTACAT GTACATTTTT TCTGCATCAT
561 GAGGATTCCT TCTAAGGAGG GG

SEQ. ID NO:12
1 GGNTTTGACC ACGGAGCTCC AAGCAGTGGT AACAACGCAG AGTACGCCCT CTTGTCCTCG TGCCGATACA
71 TGATGGGGTT CAACATGGGA GTCATAACAG TGTAGGACAA TGATAGCAGC TTCTTGCCCT CAGGTGAATT
141 ATTTGATTTA GGCCGGAAGT AGGTGAGGCT TAATGATATA TAGAAAAGAG AGACAACAAG GAGGTGTGAG
211 GAACATGTAG AAAAGGCTTT ATTCTTCCCT TTAGCTGATG GGATCTTGAG GATGGCAGCA GCAATGTGAG
281 TATAGGAACA CAAGATCAGC AAGCAGGGGA TCATGACCAC CAGAATGGTT CCGACGATGG CGTAGATCTC
351 AAAGAGTGCT GTGTCTGCAC AGACCAGCCT CAGNACAGGT GGGCTGTCAC AGAAGAAGTG GTTCACCTTG
421 TTGGTGCCAC AGAATGGAAA ACTGAAGAGC CATGTGGTCT GCACAGTAGC TACAGGAAAG CCTGGGAACC
491 AGGAGGTAGC AGCCAGTTTG CACGAGTCCC TTTGGTTNAT GAATGACTGG GGTAGTGCAA GGGACTGCAG
561 ATGGCCACAT ANCGGTCNT

SEQ. ID NO:13
1 GNNNTTNNNN CCACTGGAGC TCCAAAGCAG TGGTAACAAC GCAGAGTACG CCCCCAATGT ATTTATTCTT
71 GCTCACCTCT CCTTAGTTGA TATCTGTTTT ACCACCAGTA TTGTCCCCCA GCTGCTGTGG AACCTAAAAG
141 GACCTGACAA AACAATCACA TTCCTGGGTT GTGTCATCCA GCTCTACATC TCCCTGGCAT TGGGCTCCAC
211 TGAGTGTGTC CTCCTGGCTG TAATGGCTTT TGATCGCTAT GCTGCAGTTT GCAAACCTCT CCACTATACC
281 GCCGTAATGA ACCCTCAGCT GTGCCAGGCT CTGGCAGGGG TTGCGTGGCT GAGTGGAGTG GGAAACACTC
351 TTATCCAGGG CACTGTCACC CTCTGGCTTC CTCGCTGTGG ACACCGATTG CACTAACATT TCTTCGTGAG
421 GTACCCTCCA TGATTAAGCT TGCATGTGTG GACATCCATG ATAATGAGGT TCAGCTCTTT GTTGCTTCAC
491 TGGTCTTGCT CCTCTTGCCC TTAGTGCTAA TACTGCTGCC TATGGACATA TAGCCAAGGT GGCATAAGGA
561 TCAAGTCAGT CCAGCCT

SEQ. ID NO:14
1 GGNNTNTNAC TCCATGGACT CCAAGCAGTG GTAACAACGC AGAGTACGCC CATACATGAT GGGGTTCAGT
71 AGGGGAGTGA TGACAGTGTA GGTCACCGAG ATCAGCTGGT CATGTTCTCT GGTGTTCTCT GACTTGGGCT
141 TGAGGTAGGC AATGGAGGCA CAGCTGTAGT GGACAATGAC CACAGTGAGG TGGGATGCAC AGGTGGCAAA
211 AGCCTTCTTC CGGCCCTCAA CTGAAGCAAT CTTGAGGATT GNAGAGATAA TGAGAACATA AGAAATGAAA
281 ACCAGACCCA TAGGTACAAC AAGCACCAGC ACACTGATAA TCAAAGTCAG GATTTCATTG ACAGTGGTGT
351 CAATGCAGGA GAGCTTCATC ACAGNGCGGA TGTCACAGAA GAAGTGGGGC ACCTTTCTAG CACAGAAGGG
421 TAACCTGAAT ACAGATGTCA CTTGCGTTAT TGCTACAATC AGCCCAATGC TGCNGGCCCC CAGGACAAGT
491 TGGATACGCA GCCTTNTCGT TCTANTAACC ATGTATCTCA ANGGGCTTGC NGATNNCCAC ATACTNGCAT
561 ANACCATTGC TGNGAGC

SEQ. ID NO:15
1 GNCGNTNTTA ACNCCATTGG AGCTCCAAAG CAGTGGTAAC AACGCAGAGT ACGCCCATTA CGAAAAGTGT
71 AGATGAAGGG GTTCAAGAGG GGTGTGATGA TGCAGCTCAG GACGGAGGCA CCTTTGTTGA GCAGTTTGGA
141 CTGAGCCTCT GACATACGAA TGTAGAGAAA GATGGAACTG CCATAGATGA TGACCACCAC TGTAAGATGC
211 GAGGCGCAAG TGGAAAACGC TTTCCTTCGC TCAGCAGCTG TAGGGGCCCT GAGAACAGTG GCAAGAATGC
281 AGGCATAGGA AACTGAGGTC AGAGCCAGTG AGCCCAGTAA CACCAACGTA GAGAGCATGA AAGCCACCAG
351 TTTCAGCAGG TGGGTGTCCC CACAAGAAAG CCTGAGCAAG GGCCAACTGT CACGAAAGAA GTGGTCAATA
421 CCATTGNGGC CACAGAAAGG CATGGCTGGC CATGAGGACA GTGGGGCAAA GGACCCAGAG GAATNCANCT
491 AGCCAGGAGG CCACACTAGT TTGTGAACAG ACATGGCCAT TNATTAGGGT CTCATAGCGG AGTTGTCGNC
561 AGATTTGCNT GGTNACGATT CAN

SEQ. ID NO:16

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  1 GGNNTTTTAC CNCNATTGGA CTCCAAAGCA GTGGTAACAA CGCAGAGTAC GCCCCCTATG TATTTATTCT
 71 TGCTCACCTC TCCTTAGTTG ATATCTGTTT TACCACCAGT ATTGTCCCCC AGCTGCTGTG GAACCTAAAA
141 GGACCTGACA AAACAATCAC ATTCCTGGGT TGTGTCATCC AGCTCTACAT CTCCCTGGCA TTGGGCTCCA
211 CTGAGTGTGT CCTCCTGGCT GTAATGGCTT TTGATCGCTG TGCTGCAGTT TGCAAACCTC TCCACTATAC
281 CGCCGTAATG AACCCTCAGC TGTGCCAGGC TCTGGCAGGG GTTGCGTGGC TGAGTGGAGT GGGAAACACT
351 CTTATCCAGG GCACTGTCAC CCTCTGGCTT CCCCGCTGTG GACACCGATT GCTCCAACAT TTCTTCGTGA
421 GGTACCCTCC ATGATTAAGC TTGCATGTGT GGACATCCAT GATAATGAGG TTCAGCTCTT TGTTGCTTCA
491 CTGGTCTTGC TCCTCTTGCC CTTAGTGCTA ATACTGCTGC CTATGGACAT ATAGCCAANG TGGCATAAAG
561 GATCAAGTCA GTCCAGG
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SEQ. ID NO:17

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  1 GNNNNTTNTT CANTCCATTG GGCCCTCTAG ATGCATGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA
 71 GAATTCGCCC TTATTCCGGA GGGTATACAT GAAGGGATTG GTAACTAGAC GTAAACTCGA AGCCAAGAAC
141 AGAATTTCTC TTAGAAAAGA GAATTGAAAC TAAAGAGAAA GAACTAGCAA AGAAGGAAAT ATTGAATATA
211 CAAGAGAGAG GAGACAGATG ATGGAACAAG ACTCTGAAAG AGGTGGAAGG GATTGAATAC AATCAAAAGT
281 ATGGTGACTG CTAGTTCCAA GATGGTGGCG TAGGGGCAAG CTGGCTTTGC TTACCCCCCT GGCAGAAAAC
351 CAAAAACAAA TAGCACCAAG ATTATCACTA GCAATATCCC AGAACTCACA TATAAGGATG AGACAGTTCC
421 CAGGGCCCAG AGAAGATCAG AAGCACAAGT GGGAGAAGTC AGCTTTGGAT GCTACTTTGT TCTAAGGGAG
491 ACAAGTTGGG AGGATGATTG CAGATGTATA TTCAATGTTA TAAAACAGCC CATAAAACAA AGATTGGAAA
561 ATGTTGAATT TTGCAACCAG GAGCAAATAC TGGGAAAGGC GAATTCCAGC CACTTGCNGC C
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SEQ. ID NO:18

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  1 GNNNNTTNAN TCANTGCCCT NGGGCCCTCT AGATGCATGC TCGAGCGGCC GCCAGTGTGA TGGATATCTG
 71 CAGAATTCGC CCTTGTTGCG CAAGGTGTAA ATGAAAGGGT TTGCGCAGGA GTAAATGAAG GGATTACGCA
141 GGAGTAAATG AAGGGATTAC GCAGGAGTAA ATGAAGGGAT TACGCAGGAG TAAATGAAGG GATTACGCAG
211 GAGTAAATGA AGGGATTACG CAGGAGTAAA TGAAGGGATT ACGCAGGAGT AAATGAAGGG ATTACGCAGG
281 AGTAAATGAA GGGATTACGC AGGAGTAAAT GAAGGGATTA CGCAGGAGTA AATGAAGGGA TTACGCAGGA
351 GTAAATGAAG GGATTACGCA GGAGCAAATA CATAGGAAGG GCGAATTCCA GCACACTGGC GGCCGTTACT
421 AGTGGATCCG AGCTCGGTAC CAAGCTTGAT GCATAGCTTG AGTATTCTAA CGCGTCACCT AAATAGCTTG
491 GCGTAATCAT GGTCATAGCT GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATTCCACAC AACATACGAG
561 CCCGGAAGCA TAAAGTGTAA AGNCTGGGGT GCCTAATGAG TGACTTACTC CATTA
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SEQ. ID NO:19

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  1 GNNANTNATT CCATCCATTG TCCCTTCAGA TGCATGCTCG AGCGGCCGCC AGTGTGATGG ATATCTGCAG
 71 AATTCGCCCT TCTTGGTTTT TGTGCTGATA GATCATGGGA TTCAGCATGG GGGTGACCAC AGTGTACATC
141 ACTGAGGCTG TTGCACTTGA GTGTGAGTTG CGGGTGGCAG CAGAACTAAG GTACACCCCT AGGATTGCAC
211 CATAAAATAA GGAGACAACT GAGAGGTGAG ATGCACAGGT GGAAGATGCC TTGTACTTCC CCTGAGCTGA
281 TGAGATNGCA TGTATGGAAN GAAATTATNT TANAAGTAAG AGTAAAGNAT NCCAGTCAGG GGNANCNTTC
351 ACCCATCAGN TGCAANTTGT AAAAATTATA TTCAANCNAT NTGNATTTAA NGAAAANCCT TATCANGTAN
421 ACACTGCNAA GNTNTGNATT NANCCCTNGN ANTTAANNTT TCNACAAGAA AATAANGTGC GTTNNAATCT
491 TTNTAAGTCC CTNTCNCCAT TAANGTCNAN TCCNTCCNTA TCCCTTTTCN NATTTTGNAN TCNNGANTAC
561 NNTCTNNNGC NNTCNATTTC TNTNNTNNCT GACCTACTAA CCNATTNAGT TACNACAAGN CCNTTCNANT
631 CTCTATAATT NCTCGCANGT TNTCCCTCTT NNCANNTNCC CNTTNTTNTC CCTNTTCCCC ATCTNC
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SEQ. ID NO:20

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  1 CCATTGGCCC TCTAGATGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT CGCCCTTCCT
 71 ATGTATTTTC TCTTACTGGG CTTTCCTGGT TCTCAAACTC TTCAGCTCTC TCTCTTTATG CTTTTTCTGG
141 TGATGTACAT CCTCACAGTT AGTGGTAATG TGGCTATCTT GATGTTGGTG AGCACCTCCC ATCAGTTGCA
211 TACCCCCATG TACTTCTTTC TGAGCAACCT CTCCTTCCTG GAGATTTGGT ATACCACAGC AGCAGTGCCC
281 AAAGCACTGG CCATCCTACT GGAGAGAAGT CAGACCATAT CATTTACAAG CTGTCTTTTG CAGATGTACT
351 TTGTTTTCTC ATTAGGCTGC ACAGAGTACT TCCTCCTGGC AGCCATGGCT TATGACCGCT GTCTTGCCAT
421 CTGCTATCCT TTACACTACG GAGCCATCAT GAGTAGCCTG CTCTCAGCGC AACTGGCCTT GGGCTTCTGG
491 GTGGNTGGGT TCGGGGGCAA TGCAGTGCCC ACAGGCCTTC AATCAAGTGG GCTGNTCCTT CTGGTGGCCC
561 CCGGTGCCAA TCAACCACTT TNTTTTTGGG ACAATTGCAN CCCTGGAATT GGCCC
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SEQ. ID NO:21

1 GNNCTTANTT CAATCCCACC NANCCNTGCC GANGCATGCT CGNGCGGCCG CCAGTGTGAT GGATATCTGC
71 AGAATTCGCC CTTCCTATGT ATTTACTCTT ACTGGGCTTT CCTGGNTCTC AAACTCTTCA GCTCTCTCTC
141 TTTATGCTTT TTCTGGTGAT GTACATCCTC ACAGTTAGTG GTAATGTGGC TATCTTGATG NTGGTGAGCA
211 CNTCCCATCA GNTGCATACC CCCATGTTNT TCTTTCTGAG CNACCTCTCC TTCCTGGAGA TTTGGTATNC
281 CNCAAGCNGC ANNGCCCAAA GCTTTGCNCA TCTTATTGCN CAGANGCNNN CCNNTACANN NACNCTCCTG
351 TTTNTCGCTN CCTTNCCTCT TNCTTCNCTC ANNTACTNCN TCTNCTNTAG TNTCTTTCTT CTCTNTCNCT
421 CNTNNCNCCT NTAATNTTCC NCCTNTTCTN NTTTCTNTTT TCCCTNCTCT GTTTCACCCC TACCTCTTAT
491 CCNTNCTNCT NACTTCANNC TCNGNCNNTN NNNCNCCNNT AAATNTANGN NNANNNTNNN ATNTNCTCTT
561 CTCCNTTTAT ATCGCCTCTT CTCNTNCTTC CNNTTCTCTC TCCTCANNCA TATCNANTNT NTTCTACTCT
631 CGTNCNNTAT CTANNCTCCT NTTTCNGTCC TNCTTCTCCT NTCATTTCTA TATTNCTTCT CANACANTNT
701 TCGCATCGTN GCANCATCTC CTCCCATCTC CTGTNCNCTN TTCCN

SEQ. ID NO:22

1 GNNNTTAANT CATTCCCCNC TCNATGCATG CTCGAGCGGC CGCCAGNGTG ATGGATATCT GCAGAATTCG
71 CCCTTGTTTC GGAGGCAGTA GATGAATGGG TTGATGGAAT CTGAGACAGT GCTCTAGAAT CTGTGTTTCA
141 TACAGGATGA GATATAAATG AAACAAATGC TAAATAATGA CACAAGGTAC CTTGCCGAGA GAGGAATCAT
211 CCACCTGGAA GGGTAGGCTG TTTGTGAATA ATGTAGGGTG GGAGAGAAGG CTTTACTAAG GAGATGGGCT
281 TAAAGAATGT GAACGATGTG CTCACAGAGG CCACAGAAGA GAAATTATAG CCAGGAGAAC AACCTGAAAG
351 ACAAAGGACA CGGTGGCATG AGCGCATGTA ACACAATGTA CTCAGGAAAT GGCTGGCATC CTGAGATATG
421 GAGTGGAATA CAGTACAGGG CTTTGTAAAC TCAGCTTGGA GTCAGATCAC AGAAAGCCTT GACAAGGAAC
491 TGAAAATGGG TTCTGAAGGC CAGAAGCCCA TTCAAGATTC CCAAAGGGAA AAACACAAAT CAGCTTGGTT
561 TCAGGACGTA ATTCTTGGCA GTTGCTAGAA TTACATCAGA AAGGAGGTTC ACNT

SEQ. ID NO:23

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71 ATTCGCCCTT CCTATGTATT TCCTCTTACT GGGCTTTCCT GGTTCTCAAA CTCTTCAGCT CTCTCTCTTT
141 ATGCTTTTTC TGGTGATGTA CATCCCCACA GTTAGTGGTA ATGTGGCTAT CTTGATGTTG GTGAGCACCT
211 CCCATCAGTT GCATACCCCC ATGTACTTCT TTCTGAGCAA CCTCTCCTTC CTGGAGATTT GGTATACCAC
281 AGCAGCAGTG CCCAAAGCAC TGGCCATCCT ACTGGGGAGA AGTCAGACCA TATCATTTAC AAGCTGTCTT
351 TTGCAGATGT ACTTTGTTAT CTCATTAGGC TGCACAGAGT ACTTCCTCCT GGCAGCCATG GCTTATGACC
421 GCTGTCTTGC CATCTGCTAT CCTTTACACT ACGGAGCCAT CATGAGTAGC CTGCTCTCAG CGCAGCTGGC
491 CCTGGGCTCC TGGGTGNGGG GGTTCGTGGC CATTGCAAGT GCCCACAAGC CCTAATCAGT GGCCCTGTCC
561 NTCTGGGGGC CCCCGGGCCA TTNACCACTT TNTTCTGGGA CAATTGCACC CCTGGAATTG G

SEQ. ID NO:24

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71 ATTCGCCCTT TCCTTGTTAC TGAGGGAGTA GATTAGGGGA TTGATGGAAT CTGAGACAGT GCTCTAGAAT
141 CTGTGTTTCA TACAGGATGA GATATAAATG AAACAAATGC TAAATAATGA CACAAGGTAC CTTGCCGAGA
211 GAGGAATCAT CCACCTGGAA GGGTAGGCTG TTTGTGAATA ATGTAGGGTG GGAGAGAAGG CTTTACTAAG
281 GAGATGGGCT TAAAGAATGT GAACGATGTG CTCACAGAGG CCACAGAAGA GAAATTATAG CCAGGAGAAC
351 AACCTGAAAG ACAAAGGACA CGGTGGCATA AGCGCATGTA ACACAATGTA CTCAGGAAAT GGCTGGCATC
421 CTGAGATATG GAGTGGAATA CAGTACAGGG CTTTGTAAAC TCAGCTTGGA GTCAGATCAC AGAAAGCCTT
491 GACAAGGAAC TGAAAATGGG TTCTGAAGGC CAGAAGCCAT TCAAGATTCC CAAAGGGAAA AACACANATC
561 ACTTGTTTTC AGGACGTATT CTTGGGCAGT TGCTAGAATT ACATCAGAAA GG

SEQ. ID NO:25

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141 ATACAGGATG AGATATAAAT GAAACAAATG CTAAATAATG ACACAAGGTA CCTTGCCGAG AGAGGAATCA
211 TCCACCTGGA AGGGTAGGCT GTTTGTGAAT AATGTAGGGT GGGAGAGAGG GCTTTACTAA GGAGATGGGC
281 TTAAAGAATG TGAACGATGT GCTCACAGAG GCCACAGAAG AGAAATTATA GCCAGGAGAA CAACCTGAAA
351 GACAAAGGAC ACCGGTGGCA TAAGCACATG TAACACAATG TACTCAGGAA ATGGCTGGCA TCCTGAGGTA
421 TGGAGTGGAA TACAGTACCG GGGCTTTGTA AACTCAGCTT GGAGTCAGAT CCAGAAAGCC CTTGACAAGG
491 AACTGAAAAT TGGGTTCTTG AAGGCCAGAA GCCATTCAAG GATTCCCCAA AGGGGAAAAA CACAAATCAA

561 GCTTGTTTTC AGGGACCGTT AATTCTGGGG CCAGGTTGCT TGAATTACCT TCANGAAAGG GAGGTTCACA
631 CT

SEQ. ID NO:26
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71 CCTTTCTTTG TTCCTCAGAG TGTAGATTAG GGGGTTGATG GGGTTGATGG AATCTGAGAC AGTGCTCTAG
141 AATCTGTGTT TCATACAGGA TGAGATATAA ATGAAACAAA TGCTAAATAA TGACACAAGG TACCTTGCCG
211 AGAGAGGAAT CATCCACCTG GAAGGGTAGG CTGTTTGTGA ATAATGTAGG GTGGGAGAGA AGGCTTTACT
281 AAGGAGATGG GCTTAAAGAA TGTGAACGAT GTGCTCACAG AGGCCACAGA AGAGAAATTA TAGCCAGGAG
351 AACAACCTGA AAGACAAAGG ACACGGTGGC ATAAGCGCAT GTAACACAAT GTACTCAGGA AATGGCTGNC
421 ATNCTNAGAT ATGGAGNGNG AATACCAGTA CANGGCTTTN TANACTCANC TTGGAGTNCA GAATCACANA
491 ANGCCTTGCA AGGAACTGAA AATGGGTTCT GAAAGGCCAG AAGCCNTTNA AGATTCCCAA AGGGAAAAAA
561 CACAAATCAA GCTTTTTTNA AGNACNGTAA TTCNTGGNGC CAGTTGCTTA GAATTNCCAT CANAAANG

SEQ. ID NO:27
1 GGNNTAAGCC TTCCCCCTNC GATGCTGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA GAATTCGCCC
71 TTCCCATGTA TTTCCTCTTA CTGGGCTTTC CTGGTTCTCA AACTCTTCAG CTCTCTCTCT TTATGCTTTT
141 TCTGGTGATG TACATCCTCA CAGTTAGNGG TAATGGGGCT ATCTTGATGN TGGTGAGCAC CNCCCATCAG
211 TTGCATACCC CCATGTACTT CTTTCTGAGC AACCNNTCCN TCCTGGAGAN TTTGGNATAC CACACGCAAN
281 NAGNGNCCNA AGGCACTTGG NCNTNCTACA GGNGGAGAAG GCTTGACCAT ANNATTTTAC CATGCCTNGC
351 CTTANGNCAN ACCCNNCTTN TNCCTNTTNT TCCNCTNNNN GGTNNNTCAN CCGCANNCTT NNATCNNNTG
421 NANCTTCATN GAATATGGNN TNNGTNTNTC TTGAGAGCCT CNNGATCNNA TTTTTTCCAN CNNCTAAAGN
491 GGNGCTTNTC TCTCTNNNAT CTAGCTTNNT GGNTCTCTTT TNTNTNCTNA CCCGTGNTNT CCTATNTGNT
561 GTCTCTTCCT ACNNNCTGCN NTTATTNTAN ATCANNTCTN NCNTTGCTCT CNTNTACNAC ATNATCATNC
631 TCNCTCCCCN CTNTCNCTCT CTATNNCNTA CCATCNCTCT CTTCTCATTC ANCTCTTTNT CATTGNTTGT
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771 NTGTNCACTC CNNTCTTNNC NNTTNCCCTA NCG

SEQ. ID NO:28
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71 CGCCCTTCCT ATGTACTTCC TCTTACCGGG CTTTCCTGGT TCTCAAACTC TTCAGCTCTC TCTCTTTATG
141 CTTTTTCTGG TGATGTACAT CCTCACGGTT AGTGGTAATG TGGCTATCTT GATGTTGGTG AGCACCTCCC
211 ATCAGTTGCA TACCCCCATG TACTTCTTTC TGAGCAACCT CTCCTTCCTG GAGATTTGGT ATACCACAGC
281 AGCAGTGCCC AAAGCACTGG CCATCCTACT GGGGAGAAGT CAGACCATAT CATTTACAAG CTGTCTTTTG
351 CAGATGTACT TTGTTTTCTC ATTAGGCTGC ACAGAGTACT TCCTCCTGGC AGCCATGGCT TATGACCGCT
421 GTCTTGCCAT CTGCTATCCT TTACACTACG GAGCCATCAT GAGTAGCCTG CTCTCAGCGC AGCTGGCCCT
491 GGGCTTCTGG GTGGGTGGGT TTCGGGGCCA TTGCAAGTGC CCACAGCCCT TATCAAGTGG CCTGTCCTTC
561 TGNGGCCCCC GGGCCCATCA ACCACTTTTT TCTGGGGACA ATTGCACCCT GGAATGGCCC

SEQ. ID NO:29
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71 AGAATTCGCC CTTTCATGGT TCCGGAAACA GTAAATTATG GGGTTCAGTC ATGGTAACAG GAGGAGGCTG
141 AGTGTATGGG CATGGATGGG GGCTGTGAAT GTGGCGGGAG CTCATGGATG TGCTCTTCTG AGTGCTTCAC
211 GTTTCTGAGT GAAATAAGAA GCAAGGTCAT CACCGAGAGG GAGGAGACAG GCTCGGGTGA GTTTAGTGGA
281 TATGAATCCA AGAGAGACCA TTCAACTTAG TTGTCTATTT TTTTTTCTC CAGTTATAGT CACTTGCATG
351 AATGTAGATG TGGAGTACTT GATCATAAGA TCCATTTTAT GGCAGAAGAC ATTATTTTTC TGAGCCTTCT
421 GCTGTCAGTT TCTAAATAAG CAGGCCAGCC GGGCTGTGCA CCTAAATGTC TGTCTGGGAG GAGCAGGCTG
491 AGAAGTCTTG CAGTCTGCAG GACACCCGAG GAATCGTATT GTGGGAACCG TCCCCGAGAA CCACACGAGC
561 CGTGCTNCTC AGTNCTGACT GGAANAATGA AATTGNAAGC CAAGTNGTTC NNGGANCNNT

SEQ. ID NO:30
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71 TCGCCCTTCC TATGTATTTC TCTTCCTAAC GATTGGAATG CCTGGGATTA GGCAGATGAT TTTCTTTTTC
141 CCCCATACCC CTCTATTATT TAGGTGATTG AGTTTAAATC CCTTTATCTA CACCCTTCGG AACAAGGGCG
211 AATTCCAGCA CACTGGCGGC CGTTACTAGT GGATCCGAGC TCGGTACCAA GCTTGATGCA TAGCTTGAGT

281 ATTCTAACGC GTCACCTAAA TAGCTTGGCG TAATCATGGT CATAGCTGTT TCCTGTGTGA AATTGTTATC
351 CGCTCACAAT TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG
421 CTAACTCACA TTAATTGCGT TGCGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG CCAGCTGCAT
491 TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTTGCGTA TTGGGCGCTC TTCCGCTTTC TCGCTCACTG
561 ACTCGCTGGG CTTCGGTCGN TCGGCTGCGG CGAGCGGGAT CAGCTCACTC AAAAGG

SEQ. ID NO:31

1 GNNNNNNNNT CANGCCATTG GGCCCTCTAG ATGCATGCTC GAGCGGCCGC CAGTGTGATG GATATCTGCA
71 GAATTCGCCC TTCCTATGTA TTTCTCTTCA CTTTCTCCGA CATCACTCAC AGCCACCCCA CCCTCAGCCT
141 CTCCCTCCTC CCATGTATTT TCTCTTCAAT CTCTCCTTCT TTGATATCCT GAACTTTCTG TAGCTCTTTA
211 TTTTCTCTTC CAATCCCTTC ATATACACGT TTCGTAACAA GGGCGAATTC CAGCACACTG GCGGCCGTTA
281 CTAGTGGATC CGAGCTCGGT ACCAAGCTTG ATGCATAGCT TGAGTATTCT AACGCGTCAC CTAAATAGCT
351 TGGCGTAATC ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCCAC ACAACATACG
421 AGCCGGAAGC ATAAAGTGTA AAGCCTGGGG TGCCTAATGA GTGAGCTAAC TCACATTAAT TGCGTGCGCT
491 CACTGGCCGC TTTCCANGTC GGGAAACCTG TCGGCCAGCT GCATTAAATG AATCGGCCAA CGCNCCGGGA
561 GAGGCGGTTT GCGTATTGGG CGCTNTTTCG TTCTTCGNTN ACTGATCGNT GG

SEQ. ID NO:32

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71 AGAATTCGCC CTTGTTGCTT AGAGTGTAAA TAAAAGGGTT AACATTGGCT TAGAGGTGAA GAGTAAATAC
141 ATAGGAAGGG CGAATTCCAG CACACTGGCG GCCGTTACTA GTGGATCCGA GCTCGGTACC AAGCTTGATG
211 CATAGCTTGA GTATTCTAAC GCGTCACCTA AATAGCTTGG CGTAATCATG GTCATAGCTG TTTCCTGTGT
281 GAAATTGTTA TCCGCTCACA ATTCCACACA ACATACGAGC CGGAAGCATA AAGTGTAAAG CCTGGGGTGC
351 CTAATGAGTG AGCTAACTCA CATTAATTGC GTTGCGCTCA CTGCCCGCTT TCCAGTCGGG AAACCTGTCG
421 TGCCAGCTGC ATTAATGAAT CGGCCAACGC GCGGGGAGAG GCGGTTTGCG TATTGGGCGC TCTTCCGCTT
491 CCTCGCTCAC TGACTCGCTG CGCTCGGTCG NTCGGCTGCG GCGAGCGGTA TCAAGCTCAC TCAAAGGCGG
561 TAATACGGTT ATCCACAGAA TCAGGGGGAT ACGCANGAAA GAACATGTGA GCAAAT

SEQ. ID NO:33

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71 CCTTGTTGCG GAGCGAATAT ATGAAGGGGT TAAGGGAAGA GAAAATACAT AGGAAGGGCG AATTCCAGCA
141 CACTGGCGGC CGTTACTAGT GGATCCGAGC TCGGTACCAA GCTTGATGCA TAGCTTGAGT ATTCTAACGC
211 GTCACCTAAA TAGCTTGGCG TAATCATGGT CATAGCTGTT TCCTGTGTGA AATTGTTATC CGCTCACAAT
281 TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG CTAACTCACA
351 TTAATTGCGT TGCGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG CCAGCTGCAT TAATGAATCG
421 GCCAACGCGC CGGGGAGAGG CGGTTTGCGT ATTGGGCGCT CTTNCGCTTC CTCGCTCACT GACTCGCTTG
491 CGCTCGGTCC GTTCGGCTGC GGCGAGCGGT ATCAANTCAC TCAAAAGGCG GGAATACGGG TTTNCACAGA
561 AATCAGGGGG ATAACGCNGG AAAGAACATG TGAGCCANAN GGCAGCAAAA GGGCNAGGAA T

SEQ. ID NO:34

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71 GAATTCGCCC TTGTTCCGAA GGCTATAGAT GAAGGGGTTT TAGGTTTTTA GGAACACAGG CTAAGGGGGA
141 AGAGAAAATA CATGGGAAGG GCGAATTCCA GCACACTGGC GGCCGTTACT AGTGGATCCG AGCTCGGTAC
211 CAAGCTTGAT GCATAGCTTG AGTATTCTAA CGCGTCACCT AAATAGCTTG GCGTAATCAT GGTCATAGCT
281 GTTTCCTGTG TGAAATTGTT ATCCGCTCAC AATTCCACAC AACATACGAG CCGGAAGCAT AAAGTGTAAA
351 GCCTGGGGTG CCTAATGAGT GAGCTAACTC ACATTAATTG CGTTGCGCTC ACTGCCCGCT TTCCAGTCGG
421 GAAACCTGTC GTGCCAGCTG CATTAATGAA TCGGCCAACG CGCGGGGAGA GGCGGTTTGC GTATTGGGCG
491 CTCTTCCGCT TCCTCGCTCA CTGACTCGCT GCGCTCGGTC GTCGGCTGCG GCGAGCGGTA TCAGCTCACT
561 CAAAGGCGGT AATACGGGTA TCCACAGAAT CANGGGATAA CGCAGGAAAA GACA

SEQ. ID NO:35

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141 CTGTAATGCT GACAAGATGA AAGAGCCAAA AGTAATTAAT GATGCTGTTA CCTCACAAAT ATGTATGTGT
211 GGATGTATAT ATATCTATTC AATATATGTA ACTATACATA TGTCTGTTTC TAATTGAAAA CACCAGGTAA

281 TTATCATCTG TAGAAACCCT AGTGTCTCAG ATAAGTTGGC TAGTTTTTTG TTTCACATAA AGGAACAAAC
351 ATTTATAGAT TTATATGTAT ATTAAAAATG GTAAAAATTG GCTGGGTGCA GTGGTTCATG CCTATAATAC
421 CAGCACTTTG GGAAGCCGAG GTGGGCGGAT TACTTGAGGT AAGGAGCCCA GCCTGACCAA CAAGGTGAAA
491 CCCCATCCCT ACTAAAAATA CAAGAATTAG CCCGGGGATG GTGGTGGCCA CCTGTAATCC CAGCTACTTG
561 GGAGACTGAA GCCAGGAAAA TCACTTGACC CAGGAAGCNG AGGTTGCAGG NGAG

SEQ. ID NO:36
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141 CCAAGATGAT TACTGACTTT TTCAGCCAGC GCAAAGTCAT CTCTTTCAAG GGCTGCCTTG TTCAGATATT
211 TCTCCTTCAC TTCTTTGGTG GGAGTGAGAT GGTGATCCTC ATAGCCATGG GCTTTGACAG ATATATAGCA
281 ATATGCAAAC CCCTACACTA CACTACAATT ATGTGTGGCA ACGCATGTGT CGGCATTATG GCTGTCGCAT
351 GGGGAATTGG CTTTCTCCAT TCGGTGAGCC AGTTGGCCTT TGCCGTGCAC TTACCCTTCT GTGGTCCCAA
421 TGAGGTCGAT AGTTTTTATT GTGACCTTCC TAGGGTAACC AAACTTGCCT GTACAGATAC CTACAGGCTA
491 GATATTATGG TCATTGCTAA CAGTGGTGTG CTCACTGTGT GGTCTTTTGT CTTCTAATCA TCTCATACAC
561 TATCATCCTA ATGACCATCC AGCATTGCCC TTTAGATAAG TCGTNCAAAG G

SEQ. ID NO:37
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141 CCAAGTTGTT ACAGAACATG CAGAACCAGG ACCCATCCAT CCCCTATGCG GACTGCCTGA CCCAAATGTA
211 CTTCTTCCTG TTATTTGGAG ACCTGGAGAA CTTCCTCCTT GTGGCCATGG CCTATGACCG CTATGTGGCC
281 ATCTGCTTCC CCCTGCACTA CACCGCCATC ATGAGCCCCA TGCTCTGTCT CGCCCTGGTG GCGCTGTCCT
351 GGGTGCTGAC CACCTTCCAT GCCATGTTAC ACACTTTACT CATGGCCAGG TTGTGTTTTT GTGCAGACAA
421 TGTGATCCCC CACTTTTTCT GNGATATGTC TGCTCTGCTG AAGCAGGCCT TCTCTGACAC TCGAGTTAAT
491 GAATGGGTGA TATTTATCAT GGGAGGGCTC ATTCTTGTCA TCCCATTCCT ACTCATTCTT GGGTCCTATG
561 CAAGAATTGT CTCCTCATCC TCAAGGTCCC TTTTNTAANG GTATCTGCAA GGCCCT

SEQ. ID NO:38
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71 CAGAATTCGC CCTTCCAATG TATTTACTTC TCAGCCAGCT CTCCCTTATG GACCTGATGT ACATCTCCAC
141 CACCGTCCCC AAGATGGCGT ACAACTTCCT GTCCGGCCAG AAAGGCATCT CCTTCCTGGG ATGTGGTGTG
211 CAAAGCTTCT TCTTCCTGAC CATGGCGTGT TCTGAAGGCT TACTCCTGAC CTCCATGGCC TACGACCGTT
281 ATTTGGCCAT CTGCCACTCT CTCTATTATC CTATCCGCAT GAGTAAAATG ATGTGTGTGA AGATGATTGG
351 AGGCTCTTGG ACACTGGGGT CCATCAACTC CTTGGCACAC ACAGTCTTTG CCCTTCATAT TCCCTACTGC
421 AGGTCTAGGG CTATTGACCA TTTCTTCTGC GATGTCCCAG CCATGTTGCT TCTTGCTGTA CAGATACTTG
491 GGTCTATGAA TATATGGTTT TTGTAAGGAC AAAGCCTCTT TCTTCTTTTN CCTTTCATTG GCATCACTTC
561 TTCTGNGGGC CGAGTCCTAA TTGCTGGCTA TATAATGCAC TCAAAGGAGG GGAGG

SEQ. ID NO:39
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211 TGGCTTATGA CCGCTGTCTT GCCATCTGCT ATCCTTTACA CTACGGAGCC ATCATGAGTA GCCTGCTCTC
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421 CCTGCACCAA CACACAGGCA GTAGAGCTTG TGGCCTTTGT GATTGCTGNT GTGGTTATCC TGAGTTCATG
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561 GCAAAGCCTT CTCCCGTGCT CCTCGCATCT NAACGNGGTG CTCATTTGGT ATGGG

SEQ. ID NO:40
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71 AGGAGAGATA TTTATCCTCA CTGCCATGTC CTATGACCGC TATGTAGCCA TCTGCTGTCC CCTGAACTAC

141 GAGGTGATTC ATGTGCCCAT TAGAGCTTGA GAAGCACTGC TTGGAAGCCC CTTCTGCCAT CAATGAGGCT
211 GCACAGAGTA CTTCCTCCTG GCAGCCATGG CTTATGACCG CTGCCTTGCC ATCTGCTATC CTTTACACTA
281 CGGAGCCATC ATGAGTAGCC TGCTCTCAGC GCAGCTGGCC CTGGGCTCCT GGGTCTGTGG TTTCGTGGCC
351 ATTGCAGTGC CCACAGCCCT CATCAGTGGC CTGTCCTTCT GTGGCCCCCG TGCCATCAAC CACTTCTTCT
421 GTGACATTGC ACCCTGGATT GCCCTGGCCT GCACCAACAC ACAGGCAGTA GAAGCTTGNG GCCTTTGTGA
491 ATTGCTGNTG TGGGTATCCC GAGTTCATGC CTCATCACCC TTGNCTTCTA TGTGTACATC ATCAGGCACC
561 ATTCTCAGGA TCCCTTCTGC AAGNGG

SEQ. ID NO:41
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141 AATTCCTTTG GGCCAAGGNA AAAATTTTCC NGCCCCCCTT TTTTTCCCCT TTTGGTTTTT ANCCGGGGGA
211 ANGGGGGGGT TGATTAATTA ATCGGGAAGN TNGGGGGGAA NTTTTTTAAA AAAAACCTTG GGGGAAGGTT
281 CCAACCCAAC AAGGTTGGTT TTCCANGGGA CCGTTGGGAC CAGGCTTTTN GAATCAAGAA TCCCAAAGGG
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421 TGAGAACCAC GGTGAGATGC CGAGGAGCAC GTGGAGAAAG GCTTTGCTTC CGGCCACTGG CAGAGGGGAT
491 CCTGAGGATG GTGCTTGATG ATGTACACAT AGGGAGACAA GGGTGATGAG GCATGAACTC AGGATAACCA
561 CAACAGCNAT CACAAAGGCC ACAAAGCTCT ACTGCCTGTG TGTTGGGTGC AGGCCAGGGC AATCCAGGGG
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701 GGCTTGTGGG CACTGCAATG GCCACGAAAC CACCAGACCC AGGAACCCAN GGCCAAGCTT GCGCCTGAAG
771 AGCAAGGCTA CTCATGAATG GCTTCCGTAG TNGTAAAGGA TAGCAAGATG GCAAAGGCAA GCCGGTCATN
841 AAGCCATGGC TTGCCNG

SEQ. ID NO:42
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141 ACACTGGGCA CAAGTCCATG AGTAATCAAG GCCTGTTATT TAAAAAAAAA AAAAAAAAAG CTTGAACAAT
211 ATAGAATCCC ATTACCCAGA GATAGACTGG ATGGTGAATT AAACTTTCTG GTGAATTTCT TTCCAGATAT
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421 AGAGTGCAAC TGTCACTACA GCTAAAAGGA GAGCTGGAGA AGCTGGTGAG GACAGTAAGA GATGAATCTG
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561 CAAAGCAGGT GGATGAGAAA TCACATTTCA TAGTCCCTGC ACAGACGGCT NTNTTGAGCT

SEQ. ID NO:43
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211 ACTTCTTCCT GTTATTTGGA GACCTGGAGA GCTTCCTCCT TGTGGCCATG GCCTATGACC GCTATGTGGC
281 CATCTGCTTC CCCCTGCACT ACACCGCCAT CATGAGCCCC ATGCTCTGTC TCGCCCTGGT GGCGCTGTCC
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491 TGAATGGGTG ATATTTATCA TGGGAGGGCT CATTCTTGCA TCCATTCCTA CTCATCCTTG GGTCCTATGC
561 AAGAAATGCT CCTCATCCTC AAGGCCCTTC TNTAAGGGTA TCTGCAAG

SEQ. ID NO:44
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211 TACCCAGAGA TAGACTGGAT GGTGAATTAA ACTTTCTGGT GAATTTCTTT CCAGATATCT CTCTATGCAT
281 GTGTATACAC AAGCAATTTT TGGAAGAAAA GATACTTTAT AAGGATAAGC CTGAAAACTG CAACGAATGC
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421 TCACTACAGC TAAAAGGAGA GCTGGAGAAG CTGGTGAGGA CAGTAAGAGA TGAATCTGGN TTAAGACACG
491 CTGAGTCTCA GATGCCATGG CTTCCCTAGG TTGCCTCTTN CAGATGTAAA TCTTAAGCTC AAAGCANGTG
561 GATGAGAAAT ACACATTTNA TAGTCACCTG CACAGACGGT TTTTTGAT

SEQ. ID NO:45

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211 GAGTATTCTA ACGCGTCACC TAAATAGCTT GGCGTAATCA TGGTCATAGC TGTTTCCTGT GTGAAATTGT
281 TATCCGCTCA CAATTCCACA CAACATACGA GCCGGAAGCA TAAAGTGTAA AGCCTGGGGT GCCTAATGAG
351 TGAGCTAACT CACATTAATT GCGTTGCGCT CACTGCCCGC TTTCCAGTCG GGAAACCTGT CGTGCCAGCT
421 GCATTAATGA ATCGGCCAAC GCGCGGGGAG AGGCGGTTTG CGTATTGGGC GCTCTTCCGC TTCTCGCTCA
491 CTGACTCGCT GCGCTCGGTC GTTCGGCTGN GGCGAGCGGT ATCAGCTCAC TCAAAGGCGG NAATACGGTT
561 ATCCACAAGA ATCAGGGGGA TAACGCAAGA AAAGACATGT GA
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SEQ. ID NO:46

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  1 GNNNTNATTN ATTGCATTGG GCCCTCTAGA TGCATGCTCG AGCGGCCGCC AGTGTGATGG ATATCTGCAG
 71 AATTCGCCCT TAGTGAGTAG ATGAAAGGGT TCAGCATGGG GGTCACCACA GTGTACATCA TAGCCATGAC
141 AGTGTCCTTT AGAGTAGAAC TATTAGCTGA TGAGCATAAG TAGAGACCAA TAACGGTTCC ATAGAACAGT
211 GACACCACAG ATAGGTGGGA GCCACAAGTA GAGAAGGCCT TGCAGACACC CTTAGAAGAA GGGACCTTGA
281 GGATGGAGGA GACAATTCTT GCATAGGACC CAAGGATGAG TAGGAATGGG ATGACAAGAA TGAGCCCTCC
351 CATGATAAAC ATCACCCATT CATTAACTCG AGTGTCAGAG AAGGCCAGCT TCAGCAGAGC AGACATATCA
421 CAGAAAAGGT GGGGGATCAC ATTGTCTGCA CAAAAACACA ACCTGGCCAT GAGTAAAGTG TGTAACATGG
491 CATGGAAGGT GGTCAGCACC CAGGACAGCG CCACCAGGGC GAGACAGAGC ATGGGGCTCA TGAGGGCGGT
561 GTAGTGCAGG GGGAAGCAGA TGGCCACATA GCGGTCATAG GCCATGGCCA CAAGGAGGAA
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SEQ. ID NO:47

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  1 CNATGGGCCC TCTAGATGCA TGCTCGAGCG GCCGCCAGTG TGATGGATAT CTGCAGAATT CGCCCTTCCA
 71 ATGTATTTGC TTCTCAGCAA CTTGTCCTTC TCTGACCTCT GCTTCTCTTC CGTGACCATT CCCAAGTTGT
141 TACAGAACAT GCAGAACCAG GACCCATCCA TCCCCTATGC GGACTGCCTG ACCCAAATGT ACTTCTTCCT
211 GTTATTTGGA GACCTGGAGA GCTTCCTCCT TGTGGCCATG GCCTATGACC GCTATGTGGC CATCTGCTTC
281 CCCCTGCACT ACACCGCCAT CATGAGCCCC ATGCTCTGTC TCGCCCTGGT GGCGCTGTCC TGGGTGCTGA
351 CCACCTTCCA TGCCATGTTA CACACTTTAC TCATGGCCAG GTTGTGTTTT TGTGCAGACA ATGTGATCCC
421 CCACTTTTTC TGTGATTTGT CTGCTCTGCT GAAGCTGGCC TTCCCTGACA CTCGAGTTAA TGAATGGGTG
491 ATATTTATCA TGGGAGGGCT CATTCTTGTC ATCCCATTCC TACTCAATCC TTGGGTCTAT GCAAGAAATT
561 GTCTTCTTCA TNCTCAANGG CCCTTTCTTC TAANGGTATC TTGCAAG
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SEQ. ID NO:48

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  1 ANNNCCNTNG GAGCTCCAAA GCAGTGGTAA CAACGCAGAG TACGCCCCCT ATGTACTTAC TTTTGTTAAG
 71 TCCAACCTCC ATCCTCCTTG GCCTTTTGAT TCAATTGATC ACTCCTTCCT CCTCAAAACA CCTTGTTCAC
141 TCATCCTTTC TCAGTCTCCT TTGTGGATTC TTCCTCATTT ATTTGACCTC TTGCTGGTGA ACCCTTTCAT
211 ATACACTCTC CGTAACAAAG AGGGCGTACT TCTGTCGTCT TGAGCGNACT GATGGNACCC AGCTTTTGTT
281 CCCTTTAGTG AGGGNTAATT GCGCGCTTGG CGNAATCATG GNCATAGCTG NTTNCTGNGN GAAANTGNTA
351 TTTCGNTNAC AATTNCACAC AACATACNAG CCGGGAGCAT AAAGGGNNAA GNCCTGGGGN GCCTAATGAG
421 GGAGCTTACT CACAATAATT GGGGTGNGCC CACTGGCCCC TTTTCAGGCG GGAAAACCTN GCGGGGCCAG
491 CTGGAATAAA TGAATCGGGC CACGCGCCGG GGAGGAGGGC GGGTTNNGGA ATTGGGCGCT TTTTCCNTTT
561 CTNGGTTAAT GGACTNGGTN GGCNNNGTCC GTTCGGTTGG GGGGANCGGN NNT
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SEQ. ID NO:49

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  1 AACGCAGAGT ACCGCCCACT ACGTAATCTG TACATGAAAG GGTTTAAAAG AGACTGGGAA GAGAGGAATT
 71 GGCAAGATCA AGCAGAGGCA ACTCCTTCTA GTCCTTCTAG TACCGCAAGG GGCAGATAAA TGGAATGGGT
141 AACACCTAGA GGAAAGTATA CTTGCCAAAA GCAAATNCAT AGGGGGGAGT ACATTATCGG GTTGAAAAAA
211 GTATTCCATG CAGATAAAAA CCAAAAGCAA ATACATCGGG GGCGTACTTC TGTCGTCTTT GAGCGTACTG
281 ATGGTACCCA GCTTTTGNTC CTTTAGTGAG GGTTAATTGC GCGCTTGGCG TAATCATGGT CATAGCTGGT
351 TTCTGTGTGA AATTGTTATC CCGCTCACAA TTCACACAAC ATACGAGCCC GGGAGCATAA AGTGTAAAGC
421 CTGGGGTGCC TAATGAGTGG AGCTTACTTA CATTAAATTG CGTTGCGCTC ACTGGCCGCT TTTCCAAGTC
491 GGGAAACCTG TCGTGNCAGC TTCANTAATG AATCGGCCAA CGCCGCGGGG AGAGGCGGGT TGCGTATTGG
561 GCGCTCTTCC GCTTCTTNGT TNACTGACTT CGG
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SEQ. ID NO:50

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  1 GNNNTTTAAC NCCGGNGCTN CNAGCAGTGG AACAACGCAG AGTACGCCCC CGATGTACTT TCTTTTTCAG
 71 TCTCAAGTCT TCCTCTTCTC CAAAGATTTT GTCTTTTCTA CTACCTGAGC TACCAAATCC CTTGTCATCA
141 ATTTCAATAA CTGTATTCTC TTCATCATTT CAACTTCAAA CGTGTCATCT CAGAACAAGC TTCATGTTAC
211 TTCCAATTTT ATCCTTCTTG TTTGCTGATT CCAAGAATTC CAGTCCCATC TAGGCCCGCA ATGCATTGTT
281 CCTGCCACCC TTTTCATATC CTCAATTCCC TTGTATCATC ACTTTCCTTT TATATAGCAC AGATTCCATG
351 ATTCATAACA ATAATTATGT TTTTTTTTGC ATGTGCTCTT AATTTCCTTT CTTGCTCCTA TTATCTTCTA
421 TCATACTTTT CTGGAAACAC TAATTCTGGT GAAATATACT CTTTGTGGAC TTTGCACTTA TGCTCAGTCA
491 GCTGAAGATG ATGGCTAGAC AAATACTCAC AATCATGCTG ACTGGCCCAA TTTATAGTCA TGACCACCGA
561 TTACAAACCC CTTCATTTAT TCTCCGCAAC AGGGGCGTCT TCTGCGCTTG AGCGTCCGGT GGGG
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SEQ. ID NO:51

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  1 GCAGTGGTAA CAACGCAGAG TACGCCCGTT ACGGAGGCTG TAAATAAAGG GGTTGAGGAA GTAAAGTACT
 71 TCACAGTACT GGAGCACACA GCATGTGAAT TTCAGCCAAA GGACAAATGC CTCCAAAAAA AGTTAATTCA
141 CAGTGCAGCA GGGCGAGGCA CTTGTCTTAT TCGCTGGTTC TCACATTGAC CCTGAAAGGA CTTTTTTTTG
211 TTAATCCCAT TTTCACAGAT GGGAAAGGGA CTCTGTATGG TTGTCACTTT TATCCAAAGT CTCATAGCCA
281 GTAAGAAGCT GCCCTCAAAG TCCCTACCCT GTCTTCCATT CGACTATTCT GAGGTTCAGA CCCAGAAACC
351 CCATACCTCT GCCTTATATT TTAATGAAAA GTATGTCTCC AGGTTTATGT GGAGAATAAC CAAGACCTCA
421 GAAACATTTA GTGAAAATCA GAGCTAGAAG GAATCTGTTT TTTTGCGAGT TCAGAGAAAC TGACTTGGAT
491 AAGACATCAA AGTTGTCTTG TGCAGCAAAT TCTCCTCCGG CACATAGTAG GCACTCTGAT AAATTCAAAA
561 AGGCTTCTAA GAAGAGGCAG AAGN
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SEQ. ID NO:52

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  1 GTGAANCCAN NNTAANNCCN ATTGGAGCTC CAAGCAGTGG TAACAACGCA GAGTACGCCC CCGATGTAGT
 71 TTCTTCTTTC CTTCCTTCCC TCCTTCCTTC CTTCTTTCCT TTCTCTCTCT CTCCCTCTCC CTCTCCCTCT
141 CCCTCTCTCT CTCCTTTTTC TTCTCCTTCC TCCTCCTCCC CCCAATCCGT TCATGACTTC TTCTTCTTCC
211 TCTTCTTCTT CTTTCTTTCT TTCTTCTTTT TCTCTAAGCA GGATCCTGGG CTGTTCAAAC CAGAGAGCTG
281 TAAGTCTTTT CTTTCCCCAT TACTGTTAGA TCCGTTGAAT CGGCTCCAGA AACCAAACAA GTTAACCCTT
351 GCATTTACAC GTTTCGTAAC GGGCGTACTT CTGTCGTCTT GAGCGTACTG ATGGTACCCA GCTTTTGTTC
421 CCTTTAGTGA GGGTTAATTG CGCGCTTGGC GTAATCATGG TCATAGCTGT TTCCTGTGGG AAATTGTTAT
491 CCGCTCACAA TTCCACACAA CATACGAGCC GGGAGCATAA AAGTGTAAAG CCTGGGGTGC CTNATGAGTG
561 AGCTAACTCA CATTAATTGC GTTGCGCTTA CTGNCCGTTT TCAGTCNGGA AAN
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SEQ. ID NO:53

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  1 TNANNCNNNT TAANNCCCAT TGGAGCTCCA AAGCAGTGGT AACAACGCAG AGTACGCCCC CGATGTACTT
 71 GCTTCTTCTT CTTTGGAGTG GCTGAATGCT TCCTCCTGGC TACCATGGCA TATGACCGCT ATGTGGCCAT
141 CTGCAGTCCC TTGCACTACC CAGTCATCAT GAACCAAAGG ACTCGTGCCA AACTGGCTGC TGCCTCCTGG
211 TTCCCAGGCT TTCCTGTAGC TACTGTGCAG ACCACATGGC TCTTCAGTTT TCCATTCTGT GGCACCAACA
281 AGGTGAACCA CTTCTTCTGT GACAGCCCAC CTGTGCTGAG GCTGGTCTGT GCAGACACAG CACTGTTTGA
351 GATCTACGCC ATCGTCGGAA CCATTCTGGT GGTCATGATC CCCTGCTTGC TGATCTTGTG TTCCTATACT
421 CGCATTGCTG CTGCCATCCT CAAGATCCCA TCAGCTAAAG GGAAGAATAA AGCCTTTTCT ACATGTTCCT
491 CACACCTCCT TGGTGGCTCT CTTTTCTATA TATCATTAAG CCTCACCTAC TTCCGGCCTA AATCAAATAA
561 TTCACCTGAG GGCACGAAGC TGCTATCATT GCCTACACTG NTATGACTCC A
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SEQ. ID NO:54

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  1 GTTNTTCCAT GGACTCCCAA GCAGTGGTAA CAACGCAGAG TACGCCCCCT ATGTACTTAC TTCTTGCTGG
 71 CTTATCATTT ATAGATATCA TTTATTCTTC ATCCATTTCC CACAGATCGA TTTCAGACTT GTTCTTTGGG
141 AATAATTCCA TATCCTTCCC ATCTTGCTTG GCCCAGCTCT TTACAGAGCG CCTTTTTGGT GGGTCAGAGG
211 TCTTTCTTCT GTTGGTGATG GCCTATGACC TTGCATTACT TGGTTATCAT GAGACAATGG GTGTGTGTTT
281 TGCTGCTGGT AGTGTCCTGG GTTGGAGGAT TTCTGCACTC AGTATTTCAA CTTAGTGTTA TTTATGGGCT
351 CCCATTCTGT GACCTCAATG TCATTGATCA TTTTTTCTGT GATATGCACC CTTTATTGAA ACTGGTCTGT
421 ACCGATACCC ATGTTATTGG CCTCTTAGTG GTGGCAATGG AGGACTAGGT TGCACTATTG GGNTTCTGCT
491 CTTACTCATC TCTTATGGNN CATCTGCACT CTCTAAAGAA CCTTAGTCAG AAAGGGAGGT GAAAAGCCCT
561 CTCAACCTGC AGTTCCACAT AACTGGGGGG TGGTTTCTTC TTTGTN
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SEQ. ID NO:55

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  1 TTANNCCNNT TNAATNCCNT TGGAGCTCCA AAGCAGTGGT AACAACGCAG AGTACGCCCC CAATGTACTT
 71 GCTTCTTCTT TTTTGGGGCT GCTGAGTGCT GCCTCCTGGC CACCATGGCA TATGACCGCT ACGTGGCCAT
141 CTGTGACCCC TTGCACTACC CAGTCATCAT GGGCCACATA TCCTGTGCCC AGCTGGCAAG CTGCCTCTTG
211 GTTCTCAGGG TTTTCAGTGG CCACTGTGCA AACCACATGG ATTTTCAGTT TCCCTTTTTG TGGCCCCAAC
281 AGGGTGAACC ACTTNTTNTG TGACAGCCCT CCTGTTATTG NACTGGTCTG TGCTGACACC TCTGTGTTTT
351 GAACTGGAGG CTCTTGACAG CCACTGCCTA ATTCATTCTC TTTCCTTTCT TGCTGATCCT GGGATCCTAT
421 TTCGCATTCT CTTCACTATC TTTAAGGATG CCGTCAGCTG AGGGGAAACA TNAGCATTCT NCACCTGTTC
491 CGCCCACCTC TTGGGTGGCT CTCTCTTCTA TAGCACTGGC AATCCTTAAC GTATTTTCCG ACCCCAATTC
561 AAGTGCCTTT TTNTGAGAAG CAAAGAAACT GGTTGTCACT TTTTTTTCAC AAGGGGNGAC TTCCAATGTT
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SEQ. ID NO:56

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  1 GNGNTTTNNN CCATGGAGCT CCAAAGCAGT GGTAACAACG CAGAGTACGC CCCCCATGTA CTTTCTTCTT
 71 CTTTGGAGTG GCTGAATGCT TCCTCCTGGC TACCATGGCA TATGACCGCT ATGTGGCCAT CTGCAGTCCC
141 TTGCACTACC CAGTCATCAT GAACCAAAGG ACTCGTGCCA AACTGGCTGC TACCTCCTGG TTCCCAGGCT
211 TTCCTGTAGC TACTGTGCAG ACCACATGGC TCTTCAGTTT TCCATTCTGT GGCACCAACA AGGTGAACCA
281 CTTCTTCTGT GACAGCCCAC CTGTGCTGAG GCTGGTCTGT GCAGACACAG CACTCTTTGA GATCTACGCC
351 ATCGTCGGAA CCATTCTGGT GGTCATGATC CCCTGCTTGC TGATCTTGTG TTCCTATACT CACATTGCTG
421 CTGCCATCCT CAAGGTCCCA TCAGCTAAAG GGAAGAATAA AGCCTTTTCT ACATGTTCCT CACACCTCCT
491 TGNTGTCTCT CTTTTCTATA TATCATTAAG CCTCACCTAC TTCCGGCCTA AATCAAATAA TTCACCTGAG
561 GGCAAGAAGC TGCTATCATT GNCCTACACT GTTATGACTC CATGTTGAAC CCCATAATTT ATTCATTCAG
631 C
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SEQ. ID NO:57

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  1 TTATNNCCAT TGGAGCTCCA AAGCAGTGGT AACAACCGCA GAGTACGCCC CCCATGTATT TTCTTTTTCT
 71 TGGGGNAGCT GNATGCTTCC TNCTGGCTAC CATGGNATAT GACCGGCTAT GNGGNCATCT GCAGTCCCTT
141 GNNCTCCCAG TCATTATGAA CCAAAGGACA CGGGCCAAAC TGGCTGGTGN TTCCTGGGTC CCAAGCTTTC
211 CTGNAGCTAC TGNGCAAGAC CACAATGGCT CTTNAGNTTT CCATTCTGNG GCACCAACAA GGTGAACCAC
281 TTNTTTCTGN GACAGCCGGC TGTGCTGAAA GCTGGTCTGN TGCAAGACAC AGCACTGTTT GAGATCTACG
351 CCATCGTCGG AACCATTCTG GTGGTCAATG AACCCCTGCT TGCTGATCTT GNGTTCCTAT ACTCGNATTG
421 GTGCTGCTAT CCCTCAAGAA CCCATCAAGC TAAANGGGAA GCAATAAAGN CCTTTCTCTA CGTGCTCCTT
491 AACACCTCCC TTGGTGGCCT CTCTTTTCTA ATATAATCNT CTAAGCCTCA ACCTACTTCT TGGGCCTNAA
561 NTCAAATAAA TTCTTCTGGA GAGGCAAGAA GGTGGTATTC ATTTATNCTA CACTGGTNGN GACTCCATGN
631 TGGAACT
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SEQ. ID NO:58

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  1 GTNATNCCNT TTAATNCCNT TGGAGCTCCA AGCAGTGGTA ACAACGCAGA GTACGCCCGT TCCTCAGACA
 71 GTATATGAAT GGGTTAAAAA TGGGCCAGAG CAGATGCAGG AAGATCAAAT AGGAGGCTAC TGCAGTAGAG
141 TCAAATCTAG GGCTGATGGT TTCTTGGGAT GCATAGTAAT AGGTAGATAG AGAAAGTCTT TAGGAGGTAG
211 AATGGACAGG ACTTCACAAT GCATTAAATG TAGGGAGAAA AAAAATGATT CCTGGGTTTC TAGCTTGAGC
281 TAGTAGGGAT AGTGGTAGAA TTTACTGATA TGGAAAACTG GAGGAAAAAG AGTTTGGAAG AGAAAGATGG
351 CAAGTTAAAT ACCTGTGGGA AATATAATCA CAGACACTAA ATAGGCAGCT GTGTGGGTGG CAAAGGAGAG
421 CCATGGGCTA GGAACATACA GTGGGATTCC CTGGCATGTC ATTGGTTACT GAAGTCAGAG TGTATGAGAC
491 AGCCTAAGGA GAGAATNCAC ACAGGAGAAG AAAGAACTAA ACATTCAGTG GCTGGCCAGA GGATGAGAAA
561 CCCAAGAGAT TGGACTGTTT AGGAGCAACA GTGTTGNGAA AAGGGAGAAA NGGTTGAAAT T
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SEQ. ID NO:59

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  1 GGNTTTANNC NCTGGAGCTC CAAAGCAGNG GTAACAACGC AGAGTACGCC CATTGCGTAG CGTGTACATA
 71 AAGGGGTTGG AGCTGAAGGA GGAGATAAAG AAGAAGACAG CCAGAACCTT GTCCTCTGTC GGAGATCGCA
141 GGGATCTTGG GCCGTAGATA GGTATAAGCA AAGGGTGCAT AGTAGAAAGT CACTACAGTG AGGTGGGTGC
211 TGCAGGTCGA ATAGGCCTTC TTCCTCCCTT CTGCAGAGTG CATGTGGTAG ACAGCAAGGA GAATCCGGCC
281 ATAGGAACAT GCAATACAAA TGAAGGGAAA CACAAGAAAA ATGGTGGTGC TCAAAAACAC CGTGCACTCA
351 TAGACCCAGG TATCCGTGCA GGCTAGGGTC AACATAGCTG GAACATCACA GAAAAAATGA TTGATGGCTC
421 TGGACTTGCA ATATGGGATA CGGAGTGCAT ATACCGTGTG AGCACAAGAG TTGATGGAGC CTATCATCCA
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491 AGATCCTGTT ATCATCAGTG CACACACTCT TTTTCTCATA CGGATGAGAT AGTGGAGAGG AAAGCAAATA
561 GCCACATAAC GATCATAGGC CATTGATGTC AGGAGCAGCG CTTCTGCACC TGCTAAAGTC AGGAAGAAGA
631 T

SEQ. ID NO:60
1 TGTTANTCCN NTTTNCTNCC ATTGGAGCTC CCAAGCAGTG GTAACAACGC AGAGTACGCC CTCCTTGTTT
71 CTGAGAGTGT AGATGAAGGG GTTATAGGAG ATAAAGATCA GGGCAATATG TAGGACAAGG ACACAGACAC
141 TGACAACAAA GTTGATTATC TCATTGACAG TGGTGTCTGT GCAGGCCAGC TTCAGCAGGG GTCTCACATC
211 ACAGAAGAAG TGGGAGATGA CAAAGTCATC ACAAAAGGGC AGGCCAAACA TAGATGTTAC TTGGACAATA
281 GCCATGCCCA GGCCAATCCT CAGTGACCCA GATCCCAGTC AGACACAAGC CCTCTTACCT ATGAATACCG
351 TAAGGGGTTG CAGAAGACCA CATAGCAATC ATATCCCATG GCTATGAGAA GAAAGCAGTT GTTGATGCCA
421 AAAGTCACAT AGAAGAGCTG AGTGACACAG CCTTGCATGA CAATAAGCTA GTGAGGATTC AAGAGGCGAG
491 AAAGCATATG GGGAGTAATG GCCACCATGT AGCAGGTCTC AGAGATAGAC AGCAATGCTT AGGAAAAAGT
561 ACATGGGCCG TACTTCTGTC GTCTTGAGCG TACTGATGGT ACCCAGCTTT TGTTCCCTTT

SEQ. ID NO:61
1 GTNANNCCNN TGTAGCTCCN AAGCNGAGCT AACAACNNAG AGAACAACGC AGAGTACGCC CCCGATGTAC
71 TTGTTCCTAC TCTTTGCTGG ATTTGAAAAC TTCCTCCTGT CCGTGATGGC CTATGACCGG TTTGTGGCCA
141 TCTGTCACCC CCTGCACTAC ATGGTCATTA TGAACCCTCA CCTCTGTGGA CTGCTGGTTC TAGCATCCTG
211 GACCATGAGT GCTCTGTATT CCTTGCTACA AATCTTAATG GTAGTACGGC TGTCCTTCTG CACAGCCTTA
281 GAAATCCCCC ACTTTTTCTG TGAACTTAAT CAGGTCATCC AACTTGCTTG TTCTGATAGC TTTCTTAATC
351 ACATGGTGAT ATATTTTACA GTTGCGCTGC TGGGTGGAGG TCCCCTCACT GGGATCCTTT ACTCTTACTC
421 TAAGATAATT TCTTCCATAC ATGCAATCTC ATCAGCTCAG GGGAAGTACA AGGCATTTTC ACCTGTGCAT
491 CTCACCTCTC AGTTGTCTCC TTATTTTATG GTGCAATCCT AGGGGTGTAC CTTAGTCTGC TGCCACCCGC
561 AACTCACACT CAAGTGCAAC AGCCTCAGTG ATGTACACTG GGGCACCCCC AT

SEQ. ID NO:62
1 GNNNNNNNAT TTNATGCCNT TNTTGATTCC CNTTNNNNNN NCAAGCAGNG GTAACAACGC AGAGTACGCC
71 CCCTATGTAT TTCTTCCTAA GATCCAAATA TTAAAATAAA AGACAGTCAT CCCACCACTA ACTAAAGTAG
141 TGTTTCCCAC ACTTCTCTAT TAAGAAGCAT GTGAGATACT TGTTACAAAC ATAACATCCT GGTCCCACCC
211 CAAAGCCACT CAATCAAATA CTCCAGGGAA GGGATCTAGG AATTCGTAGG TTTAACGAGT GCCCCAAAAT
281 GATTATTACC TGTTGGAGAA TCTAGGCAAC AATGAATTAA GGAAAGCTCT CTACCATTTG GTACTGGTAC
351 CAGGTTTGAG GATCACAGGG AAGAGGGTAA GCATATCAGA CTAGCAGAGC TGCCAGAACT CGGGCTTTCA
421 AAAGAGAGGT GCCACCCTCT CCCATGTCCA TGTAAGTAGC AAACAACCCT CTCATGTACA CTCTGAGGAA
491 CAAGGGGGCG TACTTCTGTC GTCTTGAGCG TACTGATGGT ACCCAGCTTT TGTCCCTTTA GTGAGGGTTA
561 ATTGCGCGCT TGGCGTAATC ATGGTCATAG CTGTTTCCTG TGTGAAATTG TTATCCGCTC ACAATTCT

SEQ. ID NO:63
1 TGTAGCTCCA AAGCAGTGGT AACAACGCAG AGTACGCCCT CTTGGTTACG TAAGGGAATA GATGATGGGG
71 TTCAGCATGG GGGTGACTAC AGTGTACATG ACAGTGGCCA CACGGTCCCA CTCTGCTCGC GTCGGGACGT
141 GGCCTGGAAG TAGACTGCAA TGACTGTCCT ATAGAAAGAG GCTCACCACA NCCAGGTGGG AGCCACAGGT
211 GGGNCACAAG TCCCGGAGCC TCCCAGAGGC TTGAGGGCAG CTGGAGCACG GGNAAGCTTG NTATGGNCCC
281 ACAAGGAGGC GAGGATGAGC AGNAAGGGAG TGACCACCAC TTGCNGCGCC CTNGGTGAAG ATGAGCAGCT
351 TGGATGTGGT GGNTGTCAGA GCACGAGAGC CTTTAAGAGA GGCTTGGTGG GTCACAGAAG AAGTGGGNGC
421 ACTTTGTGGG AAAGCACAGA AAGGACAAGC GAGCCATGAG CAGGATATAC AGGAGGGAGT TGTCCGTGGG
491 ACACCAGCCA TGCCATTCCA ACCAGGGCTG CGCACATNGC CGGGGACATT CTCGTGGGAT AAGGGAAGGG
561 GTGCCGGATN GGCACGTATC AGTCATAGGC CTTGGNCGCC AGAAGACAGC TTTNAATTTA CCCCAGG

SEQ. ID NO:64
1 GTTANNCCNT NTANCTNCAA NNGAGGTAAC AACGCAGAGT ACGCCCCCCA TGTATTTGCT TCTTGTCCAA
71 CCTGTCCTTT GTAGAGATCT GCTACACCAC CGTTGTGGTG CCCTTGATGC TTTCCAACAT TTTTGGGGCC
141 CAGAAGCCCA TTCCATTGGC TGGATGTGGG GCCCAAATGT TCCTCTTTCT CACACTTGGT GGTGCTGACT
211 GTTTCCTCTT GGCGATCGTG GCCTATGACC GCTATGTGGC CATCTGCCAC CCTTTGCACT ACCCCTCATC
281 ATGACCTGCA GTCTGTGCGT GCAGATGCTG GGCGGCGCTG TGGGCCTGGC CCTCTTCCTC TCCCTGCAGC
351 TCACCGCCTT AATCTTCACC TTGCCCTTCT GCGGCTACCG CCAGGAAATT AACCACTTCC TCTGCGATGT

421 ACCTCCGTCC TGCGCCTGGC CTGCGCTGCA TCCGTGTTCA CCAGGCTGCC TCTATGTCGT GAGCATCCTC
491 GTGCTGACCG TCCCCTTCTT GCTCATCTGC GTCTCCTACG TGTTCATCAC CTGTGCCATC CTGAGCATCC
561 GTTCTGCTGA GGGCCGGCAC CAGGCCTTTT CAACTGCTCT TCCGG

SEQ. ID NO:65
1 TGTAGCTCCN AAGNNGAGNT ANCAACGCAG AGTACGCCCG CGGAATCTAT AGATGAAAGG GTTTGGNGAG
71 TCAGAAGAAG GAAGTACATG GGAGTCATAA CAGTGTAGGA CAATGATGGC AGCTTCTTGC CCTCAGGTGA
141 ATTATTTGAT TTAGGCCGGA AGTAGGTGAG GCTTAATGAT ATATAGAAAA GAGAGACAAC AAGGAGGTGT
211 GAGGAACATG TAGAAAAGGC TTTATTCTTC CCTTTAGCTG ATGGGATCTT GAGGATGGCA GCAGCAATGT
281 GAGTATAGGA ACACAAGATC AGCAAGCGGG GGATCATGAC CACCAGAATG GTTCCGACGA TGGCGTAGAT
351 CTCAAAGAGT GCTGTGTCTG CACAGACCAG CCTCAGCACA GGTGGGCTGT CACAGAAGAA GTGGTTCACC
421 TTGTTGGTGC CACAGAATGG AAAACTGAAG AGCCATGTGG TCTGCACAGT AGCTACAGGA AAGCCTGGGA
491 ACCAGGAGGT AGCAGCCAGT TTGGCACGAG TCCTTTGGTT CATGATGACT GGGTAAGTGC AAGGGACTGC
561 AGATGGCCAC ATAGCCGGTC ATATGCCATT GGTAGCCCAG GANGAAGCT

SEQ. ID NO:66
1 GTTATNCCTT GTTGCTCCCN AGCAGAGGTA ACAACGCAGA GTACGCCCCT ATTTCTCAGA TATANGATGA
71 AGGGGTTCAG AAAAAGAATG AGCAAAGAAA ATCTGGGCCA GGCGGGCATC AAAAGAAATA GTCTTGTGCT
141 CAACCAGAAA GTCTGCAATC ATTTTAGGGG TAGCAGAAGA GGCAACACAT ACGTCTATAA ATGACAGGTT
211 GGCAAGAAGC AAATACATTG GGGGCGTACT TCTGTCGTCT TGAGCGTACT GATGGTACCC AGCTTTTGTT
281 CCCTTTAGTG AGGGTTAATT GCGCGCTTGG CGTAATCATG GTCATAGCTG TTTCCTGTGT GAAATTGTTA
351 TCCGCTCACA ATTCCACACA ACATACGAGC CGGGAGCATA AAGTGTAAAG CCTGGGGTGC CTAATGAGTG
421 AGCTAACTCA CATTAATTGC GTTGCGCTCA CTGCCCGCTT TCAGTCGGGA AACCTGTCGT GCCAGCTGCA
491 TTAATGAATC GGCCAACGCG CCGGGGAGAG GCGGTTTGCG TATTGGGCGC TCTTCCGCTT CTCGCTCACT
561 GACTCGCTTG CGCTCGGTCG TTCGGCTTGC GGCGAGCGGT ATCAAGCTCA CTCAAAT

SEQ. ID NO:67
1 GGGTTTTACN CTGTGCNCCC CCAGCAGNGG TAACAACGCA GAGTACGCCC TTGTTGCGAA GAAATAAATG
71 AATGGGTTTA AAATAGACGT GAAGATGGTG TAGAATACAG CAAGGACTTT GTCAACTGAG TAACTGCTGA
141 AGGGCCACAC ATAGATGAAA ATACACGATC CAAAGAATAA AGTGACCACA GTGATGTGAG CAGTCAATGT
211 GGAGTGGGCC TTCACCATGC TTACAGAGGA GCGATTCCTA ACTGTAATAA GTATTACAGT GTAGGANACA
281 ACCAANAGGA GAAAGGAACT CAGAGAAAGA AAGCCACCAT CTGCAACTAT TAGTAGGCTG ACAACATAAG
351 TGTCTATGCA GGCTAACTTN GTNGCTAGAG GAAGGTCACA GAAAAAAACT ATCTACCTTA TTAGGACCAC
421 ANAATGGCAG ATTAACCGTG AATGCCAACT GGCTGGTGGT ATGGATGAAG CCCACAAACC AGGAAATGAG
491 GACGAGCACA ACACATACAC AGNAGCTCAT GATTGANATG TAGTGNGGAG GTTTNCTNTN GCTCATANCC
561 GTNTTNGCCA TNGNAACTNG GANCACCATT TTACTTGCAG TGNNGGAGNG AACATGAAAT N

SEQ. ID NO:68
1 GTTANNCCNN TTTAATNCNA TGGAGCTCCA AAGCAGTGGT AACAACGCAG AGTACGCCCC CGATGTACTT
71 GTTCCTACTC TTTGCTGGAT TTGAAAACTT CCTCCTGTCC GTGATGGCCT ATGACCGGTT TGTGGCCATC
141 TGTCACCCCC TGCACTACAT GGTCATTATG AACCCTCACC TCTGTGGACT GCTGGTTCTA GCATCCTGGA
211 CCATGAGTGC TCTGTATTCC TTGCTACAAA TCTTAATGGT AGTACGGCTG TCTTCTGCAC AGCCTTAGAA
281 ATCCCCCACT TTTTCTGNGA ACTTAATCAG GTCATCCAAC TTGCTTGTTC TGATAGCTTT CTTAATCACA
351 TGGTGATATA TTTTACAGTT GCGCTGCTGG GTGGAGGTCC CCTCACTGGG ATCCTTTACT CTTACTCTAA
421 GATAATTTCT TCCATACATG CAATCTCATC AGCTTAGGGG AAGNACAAGG CATTTTCCAC CTGTGCATCT
491 CACCTTTCAG TTGCTCCTTA TTTTATGGNG CAATCTAGGG GTGACCTTAG TTTTGCTGNC ACCCGCAACT
561 CACACTTAAG TGCAACAACC TCAGTGATGT ACACTGGGGT CACCCCATGC C

SEQ. ID NO:69
1 GNGNNNCGAG NTTANNCCTT GGACTCCCAG TAGAGCTACN ANGANTNCGC CNAGCGCGCA NTTNNNNCCAG
71 GGTNNTNTTN GTATCACCAA TGAATAGAAA ACAGACACCA CCTTGTCCCT GCCTAGCAAG TAGCTGGAGC
141 TGGGTCGCAA GTACACGAAA AGGGCTGTCC CAAACAGCAG AGTCACCACC ATCAGATGCG AGGCACACGT
211 GTTGCAGGCT TTCCATCGGC CCTCTGCTGA AGGGATCTTC AGGACCGCAG ACACTATGTA ACCATAGGAG
281 ATAAGGAGTT GGAGGAACGA TGTTCCTCCG ACGGTGACCA CCACGAGGAA ATTCACCACT TGACTGAGGA
351 AGGTGTCAGA GCAAGACAGA GCCAGGACTG GTGGGAGGTT GCAGAAGAAG TGGTTGATGA TGTTGGGTCC

421 GCAAAAGTGA AGCCTAAATA TGGAGCTGGC CTGGATCAGG GAGCTCAGGA AGCCACCAAC ATATGCCCCA
491 ACCACCATGC GTGTACAGAG GCCCTGGGTC ATGATAGTGG GGTANAGAAG GGGGCTGGAG ATGGCTTGCA
561 TATCGGTCGT ATGCCATAGC AGTCANGAGG AGGCACTCAA GACAGACCCA TGCCGACNAA GAAAT

SEQ. ID NO:70
1 GNNNNTTTTA CCCCTGNNGC ACANAGCAGT GGTNACAACG CNCGAGTACG CCCCCTATGT ATTTTTTCCT
71 ATTCTGGACA CGCTACTCCT GACCGTGATG GCCTATGACC GGTTTGTGGC TGTCTGCCAC CCTCTGCACT
141 ATATGATCAT CATGAACCCC CACCTCTGTG GCCTCCTGGT TTTTGTCACC TGGCTCATTG GTGTCATGAC
211 ATCCCTCCTC CATATTTCTC TGATGATGCA TCTAATCTTC TGTAAAGATT TTGAAATTCC ACATTTTTTC
281 TGCGAACTGA CGTACATCCT CCAGCTGGCC TGCTCTGATA CCTTCCTGAA CAGCACGTTG ATATACTTTA
351 TGACGGGTGT GCTGGGCGTT TTTCCCCTCC TTGGGATCAT TTTCTCTTAT TCACGAATTG CTTCATCCAT
421 AAGGAAGATG TCCTCATCTG GGGGAAAACA AATAGCACTT TCCACCTGTG GGTCTCACCT CTCCGTCGTT
491 TCTTTATTTT ATGGGACAGG CATTGGGGTC CACTTCACTT CTGCGGTGAC TCACCCTTCC CAGAAAATCT
561 CCGTGGCCTC GGTGATGTCA CTGNGGTCAC CCCCATGTTG ACCCTTTCAT TTACACCCTT AGCAAG

SEQ. ID NO:71
1 GNNNNNNNNN GTTNATNCCN NTTTTAATGC CANTNGAGNT AACAACGCAN GAGTACNCCN NNGNGTACGC
71 CCAGGGTTCA ACCNNTGAAT AGAAAACAGA CACCACCTTG TCCCTGCCTA GCAAGTAGCT GGAGCTGGGT
141 CGCAAGTACA CGAAAAGGGC TGTCCCAAAC AGCAGAGTCA CCACCATCAG ATGCGAGGCA CACGTGTTGC
211 AGGCTTTCCA TCGCCCTCTG CTGAAGGGAT CTTCAGGACC GCAGACACTA TGTAACCATA GGAGATAAGG
281 AGTTGGAGGA ACGATGTTCC TCCGACGGTG ACCACCACGA GGAAATTCAC CACTTGACTG AGGAAGGTGT
351 CAGAGCAAGA CAGAGCCAGG ACTGGTGGGG AGGTTGCAAG AAGAAGTGGT TGATGATTGT TGGGTCCCGC
421 AAAAGTGAAA GCCTAAATAT NGAGCTGGCC TGGATCAGGG GAGCTCAGGA AGCCACAACA TATGCCCCAA
491 CCACCATGCG TGTACAGAGG CCCTGGGTCA TGATAGTGGG GGTNGAGAAG GGGGCCTGGA GATGGCTGCA
561 TATCGGTCGT TGCCATAGCA AGTCAGGAGG AGGCACTTCA GACAGACCCA TGCCNCNAAG AAAAAAAACT
631 GNC

SEQ. ID NO:72
1 GNNNNNNNNN NTTNNNNCNN TNACTCCNGC AGTGGTAACA ANNANTACGC NCAGCGCGCA GTTAACCCTC
71 ACTAANGGTA ANNTNAGCTG GAACACATCA NTACGNTCAN GNNNGCNCNA TGACCGGTTT GTGGNCATNT
141 GTCACCCCCT GCACTACATG GGTCATTATG AACCCTCACC TCTGTGGACT GCTGGTTCTA GCATCCTGGA
211 CCATGAGTGC TCTGTATTCC TTGCTACAAA TCTTAATGGT AGTACGGCTG TCCTTCTGCA CAGCCTTAGA
281 AATCCCCCAC TTTTTCTGTG AACTTAATCA GGCATCCAAC TTGCTTGTTC TGATAGCTTT CTTAATCACA
351 TGGTGATATA TTTTACAGGT TGCGCTGCTG GGTGGAGGTC CCCTGACTGG GATCCTTTAC TCTTACTCTA
421 AAGATAATTT CTTNCATACA TGCAATCTCA TCAGCTCAAG GGGAAGTCAA GGCATTTTTC ACCTGTGCAT
491 CTACCCCTCA GTTGCTNCTT ATTTTATGGN GCAATCCTAG GGGTGACCTT AGTTCTGGTG GCACCCGCAA
561 CTACACTCAA TGCACAAGCT CAGTGATGTA CACTGTGGCA CCCATGCTGA ACCN

SEQ. ID NO:73
1 GTNNNNCNNN TTGATTNCCA TTGGAGCTCC AAAGCAGTGG TAACAACGCA GAGTACGCCC CCTATGTATT
71 TTTTCCTATT CTGGACACGC TACTCCTGAC CGGGATGGCC TATGACCGGG TTGNGGCTGG CTGCCACCCT
141 CTGNANTATA TGATCATCAT GAACCCCCAC CTNTGTGGCC TCCNGGTTTT TGNCACCTGG CTCATTGGTG
211 TNATGACATN CCTCCTCCAT ATTTCTCTGA TGATGCATCT AATCTTCTGT AAAGANTTTG AAANTNCACA
281 TTTTTTTNTG CGAACTGACG TACATNCTCC AGCTGGCCTG CTCTGATACC TTCCTGAACA GCACGTTGAT
351 ATACTTTATG ACGGGTGTGC TGGGCGTTTT TCCCTCCTTG GGATCATTTT CTTCTTATTC ACGAATTGNT
421 TTNATCCATA AGGAAGAATG TCCTCATNTG GGGGAAAACA AATAAGCACT TTTNCACCTG TGGGNCTCAA
491 CCTCTTCCGN CGTTTCTTTA TTTTATGGGG ACAGGCATTT GGGGTCCCAC TTTACTTTTT GNGGNGACTC
561 ACCCCTTCCA GAAAANTTTC CGTGGGCNTC NGGGATGTAC ACTGGNGGCA CCCCCATGTT GAACCCTTTT

FIGURE 2

SEQ. ID NO: 111
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aagaactgta aaatagaaaa aggaccttnt gctgctcctc aggatggcgg nacttagggg 240
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SEQ ID NO: 112
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agattgcatg tatggaagaa attatcttag agtaagagta aaggatccca gtcaggggac 300
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tantccacca cnnntnttct nannc 625

SEQ ID NO: 113
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SEQ ID NO: 114
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aaccccnttn 610

SEQ ID NO: 124
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SEQ ID NO: 125
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Fuchs, Tania; Yanai, Itai

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<213> Homo Sapien

<220>
<221> variation
<222> 3, 8, 11, 17, 28-29, 34, 40, 48, 67, 71, 613
<223> N can be any nucleotide

<400> 1
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catatagcaa tgtatctatc ataggccatg gcaacaagaa gcaccatctc actacccccca    600
aaaacatgca agn                                                        613
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<210> 2
<211> 578
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 4, 6, 8
<223> N can be any nucleotide

<400> 2
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cttgtctgaa agcttggttg aacccagtcg catatagtta aagatacctg aaccatagaa    180
tatggcaacc acagtgaggt gggagccaca tgtggagaag gctttcttcc tgccctctac    240
agagcgaatt cgcaggactg cagctgccac gtggatatag gagatgacaa tgagagccat    300
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gccacagaag ttgagcgtgg acatggccac agtgtgggtc agtgcgttgg tgaaagcaca    480
agcccaggac gcagccacca acatcctctg gactgtctga ctcatgcggg tgcttgtagg    540
tgaggggccc ggcagatggg caggaatcgg tcataggg                            578
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<210> 3
<211> 588
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 4, 5, 13, 16, 27, 576, 578, 588
<223> N can be any nucleotide

<400> 3
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tggnntttta tcnccnttgg agctccnaag cagtggtaac aacgcagagt acgcccgttg      60
cgaagcgtgt agattagggg gttcagtagg ggagtgatga cagtgtaggt caccgagatc     120
agctggtcat gttctctggt gttctctgac ttgggcttga ggtaggcaat ggaggcacag     180
ctgtagtgga caatgaccac agtgaggtgg gatgcacagg tggcaaaagc cttcttccgg     240
ccctcaactg aagtaatctt gaggattgta gagataatga gaacataaga aatgaaaacc     300
agacccatag gtacaacaag caccagcaca ctgataatca aagtcaggat ttcattgaca     360
gtggtgtcaa tgcaggagag cttcatcaca gggcggatgt cacagaagaa gtggggcacc     420
ttttctagca cagaagggta acctgaatac agatgtcact tgcgttattg ctacaatcag     480
cccaatgctg caaggccccc aggacaagtt ggatacgcag cctcttgttc ataataacca     540
tgtatctcaa gggggttgca agatggccac atagcngntc atattccn                  588
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<210> 4
<211> 583
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 7, 13, 437, 485, 488, 506, 521, 524, 545, 558
<223> N can be any nucleotide

<400> 4
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caaaatctat tgttagttcc ttgactcatg atacttccat ttctttcttt gggtgtgctc     180
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cctgtgaccg ctatatggcc atctgccggc ctttacatta tgaggtcatc ataaaccaag     300
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gtaatattcc acaactncta agcctcttag accccaaagt aattaccatt gagattggag     480
tcatnggntt ttggtacaag tcttgngata atcctctttg ntgnaattac tctctcctac     540
atgtncattt tttttgnca tcatgaggga ttccttctaa agg                        583
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<210> 5
<211> 584
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 5, 8-9, 11, 14, 17, 550, 557-559, 561, 576, 582
<223> N can be any nucleotide

<400> 5
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gccctcaggt gaattatttg atttaggccg gaagtaggtg aggcttaatg atatatagaa     180
aagagagaca acaaggaggt gtgaggaaca tgtagaaaag gctttattct tccctttagc     240
tgatgggatc ttgaggatgg cagcagcaat gcgagtatag gaacacaaga tcagcaagca     300
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```
ggggatcatg accaccagaa tggttccgac gatggcgtag atctcaaaca gtgctgtgtc     360
tgcacagacc agcctcagca caggtgggct gtcacagaag aagtggttca ccttgttggt     420
gccacagaat ggaaaactga agagccatgt ggtctgcaca gtagctacag gaaagcctgg     480
gaaccaggag gcagcagcca gtttggcacg agtcctttgg ttcatgatga ctgggtagtg     540
caagggactn gcagatnnnc ncattcggtc atatgncatg gnag                      584

<210> 6
<211> 572
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2
<223> N can be any nucleotide

<400> 6
cnttggagct ccaaagcagt ggtaacaacg cagagtacgc ccgctccgca gagaatagat      60
gaaagggttc agggtcgggg gcacgactgt gtagaacgca gacaggaaaa catccagaac     120
ggggggagaa tttgaaattg gcttcacata ggcaatgctg ccagatatca taaagagtgt     180
tacaaccaca agatgtggaa tgcaggtaga aaatgttttt gatctaccct ccttagaagg     240
aatcctcatg atgacagaaa aaatgtacat gtaggagaga gtaattacaa caaaggagat     300
tatcacaaga cttgtaccaa aaaccatgac tccaatctca atggtaatta ctttggggtc     360
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acgacatggc catcatcctc agacagacac cttggtttat gatgacctca taatgtaaag     540
gccggcagga tggccatata gcggtcatag ga                                   572

<210> 7
<211> 549
<212> DNA
<213> Homo Sapien

<400> 7
gcagtggtaa caacgcagag taccgccccc tatgtacttt ttcttgggaa acttgtctgt      60
gtttgacatg ggtttctcct cagtgacttg tcccaaaatg ctgctctacc ttatggggct     120
gggccgactc atctcctaca aagactgtgt ctgccagctt ttcttcttcc atttcctcgg     180
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tcgtacaac                                                             549

<210> 8
<211> 548
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 537, 542
<223> N can be any nucleotide

<400> 8
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tcatcaccta catagcctgc ctcatgcaga tgtatttttt catactcttt gctggatttg     180
aaaacttcct cctgtccgtg atggcctatg accggtttgt ggccatctgt cacccccctgc    240
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gntcaggg                                                              548

<210> 9
<211> 583
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 8, 13, 14, 16, 25, 232, 271, 305, 438, 488, 497, 500, 505, 512,
      524, 544, 558, 578
<223> N can be any nucleotide

<400> 9
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ttgggttgat ccccttgagat ggaggagggg ggctgaaggt acatgctgat ggctgggcca     180
taaaataaga aaactacaat aagatgggag gagcatgtcc caaaggcctt tntccttccc     240
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ataccaantt aaccacnacn gcggnaacta angattcaga cgcnctggat tcatgatgag     540
ggtntagtga agaggttntc agaatggcca cataccgntc aaa                       583

<210> 10
<211> 569
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 7, 28, 174, 232, 237, 314, 341, 445, 447, 449, 470, 494, 497, 503,
             510, 515, 527, 553, 554, 569
<223> N can be any nucleotide

<400> 10
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ccaccatcct agnnaaagtc ctccttctn                                       569

<210> 11
<211> 582
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-4, 12, 14, 504, 513, 522
<223> N can be any nucleotide
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<400> 11
ggnnttttac cncnattgga gctccaaagc agtggtaaca acgcagagta cgccccctat 60
gtacttgttc ttgagaaact tgtctttctt agatttttgt tacatctctg tcacaattcc 120
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gtacattttt tctgcatcat gaggattcct tctaaggagg gg 582

<210> 12
<211> 579
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 384, 528, 572, 578
<223> N can be any nucleotide

<400> 12
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tgccgataca tgatggggtt caacatggga gtcataacag tgtaggacaa tgatagcagc 120
ttcttgccct caggtgaatt atttgattta ggccggaagt aggtgaggct taatgatata 180
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ggtagtgcaa gggactgcag atggccacat ancggtcnt 579

<210> 13
<211> 577
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 7-10
<223> N can be any nucleotide

<400> 13
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gttgcttcac tggtcttgct cctcttgccc ttagtgctaa tactgctgcc tatggacata 540
tagccaaggt ggcataagga tcaagtcagt ccagcct 577

<210> 14
<211> 577
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-4, 6, 8, 252, 375, 474, 506, 515, 532, 541, 545-546, 556, 562,
573

<223> N can be any nucleotide

<400> 14
ggnntntnac tccatggact ccaagcagtg gtaacaacgc agagtacgcc catacatgat 60
ggggttcagt aggggagtga tgacagtgta ggtcaccgag atcagctggt catgttctct 120
ggtgttctct gacttgggct tgaggtaggc aatggaggca cagctgtagt ggacaatgac 180
cacagtgagg tgggatgcac aggtggcaaa agccttcttc cggccctcaa ctgaagcaat 240
cttgaggatt gnagagataa tgagaacata agaaatgaaa accagaccca taggtacaac 300
aagcaccagc acactgataa tcaaagtcag gatttcattg acagtggtgt caatgcagga 360
gagcttcatc acagngcgga tgtcacagaa gaagtggggc acctttctag cacagaaggg 420
taacctgaat acagatgtca cttgcgttat tgctacaatc agcccaatgc tgcnggcccc 480
caggacaagt tggatacgca gccttntcgt tctantaacc atgtatctca angggcttgc 540
ngatnnccac atactngcat anaccattgc tgngagc 577

<210> 15
<211> 583
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 5, 7, 13, 427, 485, 488, 532, 559, 569, 574, 583
<223> N can be any nucleotide

<400> 15
gncgntntta acnccattgg agctccaaag cagtggtaac aacgcagagt acgcccatta 60
cgaaaagtgt agatgaaggg gttcaagagg ggtgtgatga tgcagctcag gacggaggca 120
cctttgttga gcagtttgga ctgagcctct gacatacgaa tgtagagaaa gatggaactg 180
ccatagatga tgaccaccac tgtaagatgc gaggcgcaag tggaaaacgc tttccttcgc 240
tcagcagctg taggggccct gagaacagtg gcaagaatgc aggcatagga aactgaggtc 300
agagccagtg agcccagtaa caccaacgta gagagcatga aagccaccag tttcagcagg 360
tgggtgtccc cacaagaaag cctgagcaag ggccaactgt cacgaaagaa gtggtcaata 420
ccattgnggc cacagaaagg catggctggc catgaggaca gtggggcaaa ggacccagag 480
gaatncanct agccaggagg ccacactagt ttgtgaacag acatggccat tnattagggt 540
ctcatagcgg agttgtcgnc agatttgcnt ggtnacgatt can 583

<210> 16
<211> 577
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-4, 12, 14, 549
<223> N can be any nucleotide

<400> 16
ggnntttac cncnattgga ctccaaagca gtggtaacaa cgcagagtac gccccctatg 60
tatttattct tgctcacctc tccttagttg atatctgttt taccaccagt attgtccccc 120
agctgctgtg gaacctaaaa ggacctgaca aaacaatcac attcctgggt tgtgtcatcc 180
agctctacat ctccctggca ttgggctcca ctgagtgtgt cctcctggct gtaatggctt 240
ttgatcgctg tgctgcagtt tgcaaacctc tccactatac cgccgtaatg aaccctcagc 300
tgtgccaggc tctggcaggg gttgcgtggc tgagtggagt gggaaacact cttatccagg 360
gcactgtcac cctctggctt ccccgctgtg gacaccgatt gctccaacat ttcttcgtga 420
ggtaccctcc atgattaagc ttgcatgtgt ggacatccat gataatgagg ttcagctctt 480

tgttgcttca ctggtcttgc tcctcttgcc cttagtgcta atactgctgc ctatggacat 540
atagccaang tggcataaag gatcaagtca gtccagg 577

<210> 17
<211> 621
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 8, 13, 618
<223> N can be any nucleotide

<400> 17
gnnnnttntt cantccattg ggccctctag atgcatgctc gagcggccgc cagtgtgatg 60
gatatctgca gaattcgccc ttattccgga gggtatacat gaagggattg gtaactagac 120
gtaaactcga agccaagaac agaatttctc ttagaaaaga gaattgaaac taaagagaaa 180
gaactagcaa agaaggaaat attgaatata caagagagag gagacagatg atggaacaag 240
actctgaaag aggtggaagg gattgaatac aatcaaaagt atggtgactg ctagttccaa 300
gatggtggcg taggggcaag ctggctttgc ttaccccccct ggcagaaaac caaaaacaaa 360
tagcaccaag attatcacta gcaatatccc agaactcaca tataaggatg agacagttcc 420
cagggcccag agaagatcag aagcacaagt gggagaagtc agctttggat gctactttgt 480
tctaagggag acaagttggg aggatgattg cagatgtata ttcaatgtta taaaacagcc 540
cataaaacaa agattggaaa atgttgaatt ttgcaaccag gagcaaatac tgggaaaggc 600
gaattccagc cacttgcngc c 621

<210> 18
<211> 615
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 8, 10, 14, 21, 583
<223> N can be any nucleotide

<400> 18

gnnnnttnan tcantgccct ngggccctct agatgcatgc tcgagcggcc gccagtgtga 60
tggatatctg cagaattcgc ccttgttgcg caaggtgtaa atgaaagggt ttgcgcagga 120
gtaaatgaag ggattacgca ggagtaaatg aagggattac gcaggagtaa atgaagggat 180
tacgcaggag taaatgaagg gattacgcag gagtaaatga agggattacg caggagtaaa 240
tgaagggatt acgcaggagt aaatgaaggg attacgcagg agtaaatgaa gggattacgc 300
aggagtaaat gaagggatta cgcaggagta aatgaaggga ttacgcagga gtaaatgaag 360
ggattacgca ggagcaaata cataggaagg gcgaattcca gcacactggc ggccgttact 420
agtggatccg agctcggtac caagcttgat gcatagcttg agtattctaa cgcgtcacct 480
aaatagcttg gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt atccgctcac 540
aattccacac aacatacgag cccggaagca taaagtgtaa agnctggggt gcctaatgag 600
tgacttactc catta 615

<210> 19
<211> 696
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-3, 5, 7, 287, 300, 309, 313, 328, 331, 343, 345, 347, 360, 366,
386, 388, 391, 394, 401, 407, 416, 420, 428, 432, 434, 437, 441,
443, 448, 450, 452, 457-458, 463, 476, 484-485, 493, 503, 506, 514,
518, 520, 524, 528, 540, 541, 548, 550, 553-554, 557, 561-562,

566-568, 571-572, 575, 582, 584-585, 587-588, 603, 607, 614, 620,
623, 627, 629, 641, 648, 652, 661-662, 665-666, 668, 672, 675, 678, 684, 695
<223> N can be any nucleotide

<400> 19
gnnantnatt ccatccattg tcccttcaga tgcatgctcg agcggccgcc agtgtgatgg 60
atatctgcag aattcgccct tcttggtttt tgtgctgata gatcatggga ttcagcatgg 120
gggtgaccac agtgtacatc actgaggctg ttgcacttga gtgtgagttg cgggtggcag 180
cagaactaag gtacacccct aggattgcac cataaaataa ggagacaact gagaggtgag 240
atgcacaggt ggaagatgcc ttgtacttcc cctgagctga tgagatngca tgtatggaan 300
gaaattatnt tanaagtaag agtaaagnat nccagtcagg ggnancnttc acccatcagn 360
tgcaanttgt aaaaattata ttcaancnat ntgnatttaa ngaaaancct tatcangtan 420
acactgcnaa gntntgnatt nanccctngn anttaanntt tcnacaagaa aataangtgc 480
gttnnaatct ttntaagtcc ctntcnccat taangtcnan tccntccnta tccctttttcn 540
nattttgnan tcnngantac nntctnnngc nntcnatttc tntnntnnct gacctactaa 600
ccnattnagt tacnacaagn ccnttcnant ctctataatt nctcgcangt tntccctctt 660
nncanntncc cnttnttntc cctnttcccc atctnc 696

<210> 20
<211> 615
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 495, 545, 582, 600
<223> N can be any nucleotide

<400> 20
ccattggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt 60
cgcccttcct atgtattttc tcttactggg ctttcctggt tctcaaactc ttcagctctc 120
tctctttatg ctttttctgg tgatgtacat cctcacagtt agtggtaatg tggctatctt 180
gatgttggtg agcacctccc atcagttgca tacccccatg tacttctttc tgagcaacct 240
ctccttcctg gagatttggt ataccacagc agcagtgccc aaagcactgg ccatcctact 300
ggagagaagt cagaccatat catttacaag ctgtcttttg cagatgtact ttgttttctc 360
attaggctgc acagagtact tcctcctggc agccatggct tatgaccgct gtcttgccat 420
ctgctatcct ttacactacg gagccatcat gagtagcctg ctctcagcgc aactggcctt 480
gggcttctgg gtggntgggt tcgggggcaa tgcagtgccc acaggccttc aatcaagtgg 540
gctgntcctt ctggtggccc ccggtgccaa tcaaccactt tntttttggg acaattgcan 600
ccctggaatt ggccc 615

<210> 21
<211> 745
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-3, 8, 21, 23, 26, 33, 43, 116, 201, 212, 222, 239, 252, 279, 282, 288, 292-293, 308, 320, 325, 328-330, 333-334, 339-341, 344, 354, 360, 365, 372, 377, 382-383, 388, 390, 394, 397, 402, 415, 418, 422, 424-425, 427, 431, 436, 441, 445, 450, 451, 457, 466, 493, 495, 498, 501, 508-509, 513, 515, 517-518, 520-523, 525, 528-529, 535, 538, 540-542, 544-546, 548-550, 553, 555, 565, 584, 586, 592-593, 607-608, 615, 617, 619, 621, 634, 636-637, 644-645, 651, 656, 662, 671, 685, 693, 697, 699, 710, 714, 735, 737, 740, 745
<223> N can be any nucleotide

<400> 21

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gnncttantt caatcccacc nanccntgcc gangcatgct cgngcggccg ccagtgtgat      60
ggatatctgc agaattcgcc cttcctatgt atttactctt actgggcttt cctggntctc     120
aaactcttca gctctctctc tttatgcttt ttctggtgat gtacatcctc acagttagtg     180
gtaatgtggc tatcttgatg ntggtgagca cntcccatca gntgcatacc cccatgttnt     240
tctttctgag cnacctctcc ttcctggaga tttggtatnc cncaagcngc anngcccaaa     300
gctttgcnca tcttattgcn cagangcnnn ccnntacann nacnctcctg tttntcgctn     360
ccttncctct tncttcnctc anntactncn tctnctntag tntctttctt ctctntcnct     420
cntnncncct ntaatnttcc ncctnttctn ntttctnttt tccctnctct gtttcacccc     480
tacctcttat ccntnctnct nacttcannc tcngncnntn nnncnccnnt aaatntangn     540
nnannntnnn atntnctctt ctccntttat atcgcctctt ctcntncttc cnnttctctc     600
tcctcannca tatcnantnt nttctactct cgtncnntat ctannctcct ntttcngtcc     660
tncttctcct ntcatttcta tattncttct canacantnt tcgcatcgtn gcancatctc     720
ctcccatctc ctgtncnctn ttccn                                           745
```

<210> 22
<211> 614
<212> DNA
<213> Homo Sapien

<220>
<221> 2-4, 9, 19, 23, 47, 613
<222> (3)...(3)
<223> N can be any nucleotide

<400> 22

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gcagaattcg cccttgtttc ggaggcagta gatgaatggg ttgatggaat ctgagacagt     120
gctctagaat ctgtgtttca tacaggatga gatataaatg aaacaaatgc taaataatga     180
cacaaggtac cttgccgaga gaggaatcat ccacctggaa gggtaggctg tttgtgaata     240
atgtagggtg ggagagaagg ctttactaag gagatgggct taaagaatgt gaacgatgtg     300
ctcacagagg ccacagaaga gaaattatag ccaggagaac aacctgaaag acaaaggaca     360
cggtggcatg agcgcatgta acacaatgta ctcaggaaat ggctggcatc ctgagatatg     420
gagtggaata cagtacaggg ctttgtaaac tcagcttgga gtcagatcac agaaagcctt     480
gacaaggaac tgaaaatggg ttctgaaggc cagaagccca ttcaagattc ccaaagggaa     540
aaacacaaat cagcttggtt tcaggacgta attcttggca gttgctagaa ttacatcaga     600
aaggaggttc acnt                                                       614
```

<210> 23
<211> 621
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 6, 8, 12-13, 16, 507, 561, 583, 592
<223> N can be any nucleotide

<400> 23

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gnnntnantc anncantggg ccctctagat gcatgctcga gcggccgcca gtgtgatgga      60
tatctgcaga attcgccctt cctatgtatt tcctcttact gggctttcct ggttctcaaa     120
ctcttcagct ctctctcttt atgcttttc tggtgatgta catccccaca gttagtggta     180
atgtggctat cttgatgttg gtgagcacct cccatcagtt gcataccccc atgtacttct     240
ttctgagcaa cctctccttc ctggagattt ggtataccac agcagcagtg cccaaagcac     300
tggccatcct actggggaga agtcagacca tatcatttac aagctgtctt ttgcagatgt     360
actttgttat ctcattaggc tgcacagagt acttcctcct ggcagccatg gcttatgacc     420
gctgtcttgc catctgctat cctttacact acggagccat catgagtagc ctgctctcag     480
cgcagctggc cctgggctcc tgggtgnggg ggttcgtggc cattgcaagt gcccacaagc     540
cctaatcagt ggccctgtcc ntctgggggc ccccgggcca ttnaccactt tnttctggga     600
caattgcacc cctggaattg g                                               621
```

<210> 24

<211> 612
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-3, 8, 16, 20, 26, 557
<223> N can be any nucleotide

<400> 24
tnnttaantc attccnttgn ccctcnagat gcatgctcga gcggccgcca gtgtgatgga 60
tatctgcaga attcgccctt tccttgttac tgagggagta gattagggga ttgatggaat 120
ctgagacagt gctctagaat ctgtgtttca tacaggatga gatataaatg aaacaaatgc 180
taaataatga cacaaggtac cttgccgaga gaggaatcat ccacctggaa gggtaggctg 240
tttgtgaata atgtagggtg ggagagaagg ctttactaag gagatgggct taaagaatgt 300
gaacgatgtg ctcacagagg ccacagaaga gaaattatag ccaggagaac aacctgaaag 360
acaaaggaca cggtggcata agcgcatgta acacaatgta ctcaggaaat ggctggcatc 420
ctgagatatg gagtggaata cagtacaggg ctttgtaaac tcagcttgga gtcagatcac 480
agaaagcctt gacaaggaac tgaaaatggg ttctgaaggc cagaagccat tcaagattcc 540
caaagggaaa aacacanatc acttgttttc aggacgtatt cttgggcagt tgctagaatt 600
acatcagaaa gg 612

<210> 25
<211> 632
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 9, 614
<223> N can be any nucleotide

<400> 25
gnnnnttant ccatgcccct ctagatgcat gctcgagcgg ccgccagtgt gatggatatc 60
tgcagaattc gcccttgttt cgcagcctat aaatgaaggg gttgatggaa tctgagacag 120
tgctctagaa tctgtgtttc atacaggatg agatataaat gaaacaaatg ctaaataatg 180
acacaaggta ccttgccgag agaggaatca tccacctgga agggtaggct gtttgtgaat 240
aatgtagggt gggagagagg gctttactaa ggagatgggc ttaaagaatg tgaacgatgt 300
gctcacagag gccacagaag agaaattata gccaggagaa caacctgaaa gacaaaggac 360
accggtggca taagcacatg taacacaatg tactcaggaa atggctggca tcctgaggta 420
tggagtggaa tacagtaccg gggctttgta aactcagctt ggagtcagat ccagaaagcc 480
cttgacaagg aactgaaaat tgggttcttg aaggccagaa gccattcaag gattccccaa 540
aggggaaaaa cacaaatcaa gcttgttttc agggaccgtt aattctgggg ccaggttgct 600
tgaattacct tcangaaagg gaggttcaca ct 632

<210> 26
<211> 628
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-3, 419, 423, 426, 437, 439, 453, 460, 463, 469, 478, 489, 492,
536, 539, 579, 583, 586, 594, 598, 616, 623, 627
<223> N can be any nucleotide

<400> 26
gnncttattc atccccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg 60
cagaattcgc cctttctttg ttcctcagag tgtagattag ggggttgatg ggttgatgg 120
aatctgagac agtgctctag aatctgtgtt tcatacagga tgagatataa atgaaacaaa 180
tgctaaataa tgacacaagg taccttgccg agagaggaat catccacctg gaagggtagg 240

```
ctgtttgtga ataatgtagg gtgggagaga aggctttact aaggagatgg gcttaaagaa    300
tgtgaacgat gtgctcacag aggccacaga agagaaatta tagccaggag aacaacctga    360
aagacaaagg acacggtggc ataagcgcat gtaacacaat gtactcagga aatggctgnc    420
atnctnagat atggagngng aataccagta canggctttn tanactcanc ttggagtnca    480
gaatcacana angccttgca aggaactgaa aatgggttct gaaaggccag aagccnttna    540
agattcccaa agggaaaaaa cacaaatcaa gctttttna agnacngtaa ttcntggngc     600
cagttgctta gaattnccat canaaang                                       628
```

<210> 27
<211> 803
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-4, 19, 168, 190, 202, 245-246, 250, 260, 266, 280, 281, 284, 286, 289, 301, 303, 305, 313, 332-333, 348, 355, 357, 360, 365-366, 370, 372, 376, 379, 384, 387-390, 394-396, 400, 406-407, 411-412, 416-418, 421, 423, 430, 439-440, 442-443, 446, 448, 462-463, 468-469, 480, 482-483, 490, 493, 498, 506-508, 518-519, 523, 532,534, 536, 539 547, 549, 556, 559, 573-575, 580-581, 587, 590, 595-596, 600-601, 603, 612, 614, 618, 623, 629, 633, 640, 643, 646, 655-656, 658, 666, 682, 689, 696, 704, 708-709, 718, 721, 732, 738-739, 743, 746, 751, 759, 764-765, 771, 775, 782-783, 788-789, 791-792, 795, 801
<223> N can be any nucleotide

<400> 27

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gaattcgccc ttcccatgta tttcctctta ctgggctttc ctggttctca aactcttcag    120
ctctctctct ttatgctttt tctggtgatg tacatcctca cagttagngg taatggggct    180
atcttgatgn tggtgagcac cncccatcag ttgcataccc ccatgtactt ctttctgagc    240
aaccnntccn tcctggagan tttggnatac cacacgcaan nagngnccna aggcacttgg    300
ncntnctaca ggnggagaag gcttgaccat annattttac catgcctngc cttangncan    360
acccnncttn tncctnttnt tccnctnnnn ggtnnntcan ccgcannctt nnatcnnntg    420
nancttcatn gaatatggnn tnngtntntc ttgagagcct cnngatcnna ttttttccan    480
cnnctaaagn ggngcttntc tctctnnnat ctagcttnnt ggntctcttt tntntnctna    540
cccgtgntnt cctatntgnt gtctcttcct acnnnctgcn nttattntan atcanntctn    600
ncnttgctct cntntacnac atnatcatnc tcnctccccn ctntcnctct ctatnncnta    660
ccatcnctct cttctcattc anctctttnt cattgnttgt tcanttannc actctccntc    720
ncatcttcta tncactannt ttnttntttt nctctctant tctnnttcca ntgtncactc    780
cnntcttnnc nnttncccta ncg                                            803
```

<210> 28
<211> 620
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 4, 7, 9, 10, 11, 24, 563
<223> N can be any nucleotide

<400> 28

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ctgcagaatt cgcccttcct atgtacttcc tcttaccggg ctttcctggt tctcaaactc    120
ttcagctctc tctctttatg ctttttctgg tgatgtacat cctcacggtt agtggtaatg    180
tggctatctt gatgttggtg agcacctccc atcagttgca taccccccatg tacttctttc    240
tgagcaacct ctccttcctg gagatttggt ataccacagc agcagtgccc aaagcactgg    300
ccatcctact ggggagaagt cagaccatat catttacaag ctgtcttttg cagatgtact    360
ttgttttctc attaggctgc acagagtact tcctcctggc agccatggct tatgaccgct    420
gtcttgccat ctgctatcct ttacactacg gagccatcat gagtagcctg ctctcagcgc    480
agctggccct gggcttctgg gtgggtgggt ttcggggcca ttgcaagtgc ccacagccct    540
```

tatcaagtgg cctgtccttc tgnggccccc gggcccatca accacttttt tctggggaca 600
attgcaccct ggaatggccc 620

<210> 29
<211> 620
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-5, 7-9, 15, 567, 574, 585, 596, 606, 611-612, 616, 618-619
<223> N can be any nucleotide
<400> 29
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ggatatctgc agaattcgcc ctttcatggt tccggaaaca gtaaattatg gggttcagtc 120
atggtaacag gaggaggctg agtgtatggg catggatggg ggctgtgaat gtggcgggag 180
ctcatggatg tgctcttctg agtgcttcac gtttctgagt gaaataagaa gcaaggtcat 240
caccgagagg gaggagacag gctcgggtga gtttagtgga tatgaatcca agagagacca 300
ttcaacttag ttgtctattt tttttttctc cagttatagt cacttgcatg aatgtagatg 360
tggagtactt gatcataaga tccattttat ggcagaagac attatttttc tgagccttct 420
gctgtcagtt tctaaataag caggccagcc gggctgtgca cctaaatgtc tgtctgggag 480
gagcaggctg agaagtcttg cagtctgcag gacacccgag gaatcgtatt gtgggaaccg 540
tccccgagaa ccacacgagc cgtgctnctc agtnctgact ggaanaatga aattgnaagc 600
caagtngttc nnggancnnt 620

<210> 30
<211> 616
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 7, 9-10, 580
<223> N can be any nucleotide

<400> 30
gnnnttnann ccattgcgcc ctctagatgc atgctcgagc ggccgccagt gtgatggata 60
tctgcagaat tcgcccttcc tatgtatttc tcttcctaac gattggaatg cctgggatta 120
ggcagatgat tttctttttc ccccataccc ctctattatt taggtgattg agtttaaatc 180
cctttatcta cacccttcgg aacaagggcg aattccagca cactggcggc cgttactagt 240
ggatccgagc tcggtaccaa gcttgatgca tagcttgagt attctaacgc gtcacctaaa 300
tagcttggcg taatcatggt catagctgtt tcctgtgtga aattgttatc cgctcacaat 360
tccacacaac atacgagccg gaagcataaa gtgtaaagcc tggggtgcct aatgagtgag 420
ctaactcaca ttaattgcgt tgcgctcact gcccgctttc cagtcgggaa acctgtcgtg 480
ccagctgcat taatgaatcg gccaacgcgc ggggagaggc ggtttgcgta ttgggcgctc 540
ttccgctttc tcgctcactg actcgctggg cttcggtcgn tcggctgcgg cgagcgggat 600
cagctcactc aaaagg 616

<210> 31
<211> 612
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-9, 13, 507, 554, 585, 598, 600, 609
<223> N can be any nucleotide

<400> 31
gnnnnnnnnt cangccattg ggccctctag atgcatgctc gagcggccgc cagtgtgatg 60
gatatctgca gaattcgccc ttcctatgta tttctcttca ctttctccga catcactcac 120

```
agccacccca ccctcagcct ctccctcctc ccatgtattt tctcttcaat ctctccttct     180
ttgatatcct gaactttctg tagctcttta ttttctcttc caatcccttc atatacacgt     240
ttcgtaacaa gggcgaattc cagcacactg gcggccgtta ctagtggatc cgagctcggt     300
accaagcttg atgcatagct tgagtattct aacgcgtcac ctaaatagct tggcgtaatc     360
atggtcatag ctgtttcctg tgtgaaattg ttatccgctc acaattccac acaacatacg     420
agccggaagc ataaagtgta aagcctgggg tgcctaatga gtgagctaac tcacattaat     480
tgcgtgcgct cactggccgc tttccangtc gggaaacctg tcggccagct gcattaaatg     540
aatcggccaa cgcnccggga gaggcggttt gcgtattggg cgctntttcg ttcttcgntn     600
actgatcgnt gg                                                         612
```

<210> 32
<211> 616
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-9, 15, 521, 596
<223> N can be any nucleotide

<400> 32

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gnnnnnnnnt tcatnccatt gggccctcta gatgcatgct cgagcggccg ccagtgtgat      60
ggatatctgc agaattcgcc cttgttgctt agagtgtaaa taaaagggtt aacattggct     120
tagaggtgaa gagtaaatac ataggaaggg cgaattccag cacactggcg gccgttacta     180
gtggatccga gctcggtacc aagcttgatg catagcttga gtattctaac gcgtcaccta     240
aatagcttgg cgtaatcatg gtcatagctg tttcctgtgt gaaattgtta tccgctcaca     300
attccacaca acatacgagc cggaagcata aagtgtaaag cctggggtgc ctaatgagtg     360
agctaactca cattaattgc gttgcgctca ctgcccgctt tccagtcggg aaacctgtcg     420
tgccagctgc attaatgaat cggccaacgc gcggggagag gcggtttgcg tattgggcgc     480
tcttccgctt cctcgctcac tgactcgctg cgctcggtcg ntcggctgcg gcgagcggta     540
tcaagctcac tcaaaggcgg taatacggtt atccacagaa tcagggggat acgcangaaa     600
gaacatgtga gcaaat                                                     616
```

<210> 33
<211> 621
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 4, 6, 8, 19, 27, 31, 464, 526, 554, 578, 598, 600, 615
<223> N can be any nucleotide

<400> 33

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gntntnantc atgcccccnc cgatgcntgc ncgagcggcc gccagtgtga tggatatctg      60
cagaattcgc ccttgttgcg gagcgaatat atgaaggggt taagggaaga gaaaatacat     120
aggaagggcg aattccagca cactggcggc cgttactagt ggatccgagc tcggtaccaa     180
gcttgatgca tagcttgagt attctaacgc gtcacctaaa tagcttggcg taatcatggt     240
catagctgtt tcctgtgtga aattgttatc cgctcacaat tccacacaac atacgagccg     300
gaagcataaa gtgtaaagcc tggggtgcct aatgagtgag ctaactcaca ttaattgcgt     360
tgcgctcact gcccgctttc cagtcgggaa acctgtcgtg ccagctgcat taatgaatcg     420
gccaacgcgc cggggagagg cggtttgcgt attgggcgct cttncgcttc ctcgctcact     480
gactcgcttg cgctcggtcc gttcggctgc ggcgagcggt atcaantcac tcaaaggcg      540
ggaatacggg tttncacaga aatcaggggg ataacgcngg aaagaacatg tgagccanan     600
ggcagcaaaa gggcnaggaa t                                               621
```

<210> 34
<211> 614
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-9, 13-14, 593
<223> N can be any nucleotide

<400> 34
gnnnnnnnnt cannccattg ggccctctag atgcatgctc gagcggccgc cagtgtgatg 60
gatatctgca gaattcgccc ttgttccgaa ggctatagat gaaggggttt taggttttta 120
ggaacacagg ctaaggggga agagaaaata catgggaagg gcgaattcca gcacactggc 180
ggccgttact agtggatccg agctcggtac caagcttgat gcatagcttg agtattctaa 240
cgcgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt 300
atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtaaa gcctggggtg 360
cctaatgagt gagctaactc acattaattg cgttgcgctc actgcccgct ttccagtcgg 420
gaaacctgtc gtgccagctg cattaatgaa tcggccaacg cgcggggaga ggcggtttgc 480
gtattgggcg ctcttccgct tcctcgctca ctgactcgct gcgctcggtc gtcggctgcg 540
gcgagcggta tcagctcact caaaggcggt aatacgggta tccacagaat cangggataa 600
cgcaggaaaa gaca 614

<210> 35
<211> 614
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-4, 7, 9, 23, 599, 611
<223> N can be any nucleotide

<400> 35
ggnnttnant cattgccccg ctngatgcat gctcgagcgg ccgccagtgt gatggatatc 60
tgcagaattc gcccttccga tgtattttct tctacgttaa ggtattttaa attgttacta 120
atgcataagg gcaacacatt ctgtaatgct gacaagatga aagagccaaa agtaattaat 180
gatgctgtta cctcacaaat atgtatgtgt ggatgtatat atatctattc aatatatgta 240
actatacata tgtctgtttc taattgaaaa caccaggtaa ttatcatctg tagaaaccct 300
agtgtctcag ataagttggc tagtttttttg tttcacataa aggaacaaac atttatagat 360
ttatatgtat attaaaaatg gtaaaaattg gctgggtgca gtggttcatg cctataatac 420
cagcactttg ggaagccgag gtgggcggat tacttgaggt aaggagccca gcctgaccaa 480
caaggtgaaa ccccatccct actaaaaata caagaattag cccggggatg gtggtggcca 540
cctgtaatcc cagctacttg ggagactgaa gccaggaaaa tcacttgacc caggaagcng 600
aggttgcagg ngag 614

<210> 36
<211> 611
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 1, 3-5, 10, 18-20, 22, 26, 605
<223> N can be any nucleotide

<400> 36
ngnnnttgan tcaattcnnn gncgangcat gctcgagcgg ccgccagtgt gatggatatc 60
tgcagaattc gcccttccta tgtatttcct tctagccaac ctcccactca ttgatctgtc 120
tctgtcttca gtcatagccc ccaagatgat tactgacttt ttcagccagc gcaaagtcat 180
ctctttcaag ggctgccttg ttcagatatt tctccttcac ttctttggtg ggagtgagat 240
ggtgatcctc atagccatgg gctttgacag atatatagca atatgcaaac ccctacacta 300
cactacaatt atgtgtggca acgcatgtgt cggcattatg gctgtcgcat ggggaattgg 360
ctttctccat tcggtgagcc agttggcctt tgccgtgcac ttacccttct gtggtcccaa 420
tgaggtcgat agtttttatt gtgaccttcc tagggtaacc aaacttgcct gtacagatac 480
ctacaggcta gatattatgg tcattgctaa cagtggtgtg ctcactgtgt ggtcttttgt 540

cttctaatca tctcatacac tatcatccta atgaccatcc agcattgccc tttagataag 600
tcgtncaaag g 611

<210> 37
<211> 616
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 6, 8, 12-14, 17, 19-20, 442, 595, 599
<223> N can be any nucleotide

<400> 37
gnnntnantc cnnnccncnn ctagatgcat gctcgagcgg ccgccagtgt gatggatatc 60
tgcagaattc gcccttccca tgtatttgct tctcagcaac ttgtccttct ctgacctctg 120
cttctcttcc gtgaccattc ccaagttgtt acagaacatg cagaaccagg acccatccat 180
cccctatgcg gactgcctga cccaaatgta cttcttcctg ttatttggag acctggagaa 240
cttcctcctt gtggccatgg cctatgaccg ctatgtggcc atctgcttcc ccctgcacta 300
caccgccatc atgagcccca tgctctgtct cgccctggtg gcgctgtcct gggtgctgac 360
caccttccat gccatgttac acactttact catggccagg ttgtgttttt gtgcagacaa 420
tgtgatcccc cactttttct gngatatgtc tgctctgctg aagcaggcct tctctgacac 480
tcgagttaat gaatgggtga tatttatcat gggagggctc attcttgtca tcccattcct 540
actcattctt gggtcctatg caagaattgt ctcctcatcc tcaaggtccc ttttntaang 600
gtatctgcaa ggccct 616

<210> 38
<211> 615
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 1, 3-6, 9, 11, 14, 16, 20, 21, 23, 540, 566
<223> N can be any nucleotide

<400> 38
ngnnnnttna ntcnangccn ngngccctct agatgcatgc tcgagcggcc gccagtgtga 60
tggatatctg cagaattcgc ccttccaatg tatttacttc tcagccagct ctcccttatg 120
gacctgatgt acatctccac caccgtcccc aagatggcgt acaacttcct gtccggccag 180
aaaggcatct ccttcctggg atgtggtgtg caaagcttct tcttcctgac catggcgtgt 240
tctgaaggct tactcctgac ctccatggcc tacgaccgtt atttggccat ctgccactct 300
ctctattatc ctatccgcat gagtaaaatg atgtgtgtga agatgattgg aggctcttgg 360
acactggggt ccatcaactc cttggcacac acagtctttg cccttcatat tccctactgc 420
aggtctaggg ctattgacca tttcttctgc gatgtcccag ccatgttgct tcttgctgta 480
cagatacttg ggtctatgaa tatatggttt ttgtaaggac aaagcctctt tcttcttttn 540
cctttcattg gcatcacttc ttctgngggc cgagtcctaa ttgctggcta tataatgcac 600
tcaaaggagg ggagg 615

<210> 39
<211> 615
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 4-8, 12-13, 17-18, 22-23, 26-28, 469, 591, 596
<223> N can be any nucleotide

<400> 39
tagnnnnntt anntcanngc cnntgnnngc tcagatgcat gctcgagcgg ccgccagtgt 60

```
gatggatatc tgcagaattc gcccttccaa tgtattttct tctcagcagg agagatattt     120
atcctcactg ccatgtccta tgaccgctat gtagccatct gctgtcccct gaactacgag     180
gctgcacaga gtacttcctc ctggcagcca tggcttatga ccgctgtctt gccatctgct     240
atcctttaca ctacggagcc atcatgagta gcctgctctc agcgcagctg gccctgggct     300
cctgggtctg tggtttcgtg gccattgcag tggccacagc cctcatcagt ggcctgtcct     360
tctgtggccc ccgtgccatc aaccacttct tctgtgacat tgcaccctgg attgccctgg     420
cctgcaccaa cacacaggca gtagagcttg tggcctttgt gattgctgnt gtggttatcc     480
tgagttcatg cctcatcacc cttgtctcct atgtgtacat catcagcacc atccttagga     540
tcccctctgc agtggccgga gcaaagcctt ctcccgtgct cctcgcatct naacgnggtg     600
ctcatttggt atggg                                                      615
```

<210> 40
<211> 586
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 14, 21, 23, 479, 498, 534, 584
<223> N can be any nucleotide

<400> 40

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catgctcgag cggncgccag ngngatggat atctgcagaa ttcgcccttc ctatgtattt      60
gcttctcagc aggagagata tttatcctca ctgccatgtc ctatgaccgc tatgtagcca     120
tctgctgtcc cctgaactac gaggtgattc atgtgcccat tagagcttga gaagcactgc     180
ttggaagccc cttctgccat caatgaggct gcacagagta cttcctcctg gcagccatgg     240
cttatgaccg ctgccttgcc atctgctatc ctttacacta cggagccatc atgagtagcc     300
tgctctcagc gcagctggcc ctgggctcct gggtctgtgg tttcgtggcc attgcagtgc     360
ccacagccct catcagtggc ctgtccttct gtggcccccg tgccatcaac cacttcttct     420
gtgacattgc accctggatt gccctggcct gcaccaacac acaggcagta gaagcttgng     480
gcctttgtga attgctgntg tgggtatccc gagttcatgc ctcatcaccc ttgncttcta     540
tgtgtacatc atcaggcacc attctcagga tcccttctgc aagngg                    586
```

<210> 41
<211> 857
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 5-12, 16-18, 22, 27, 32, 42, 60, 99, 159, 171, 202, 212, 240, 242, 251, 306, 330, 371, 568, 669, 750, 802, 840, 856
<223> N can be any nucleotide
<400> 41

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atggnnnnnn nntttnnnaa anttttnccc antttgggcc gnccccccct tctttaaggn      60
aatgggccca ttgggccctt cccggaaggc ccgggggcnc ccggccccaa aggtttgggt     120
tgggaaatgg ggggaattta aattcctttg ggccaaggna aaaattttcc ngccccccctt    180
tttttcccct tttggttttt anccggggga angggggggt tgattaatta atcgggaagn     240
tngggggggaa ntttttttaaa aaaaaccttg ggggaaggtt ccaacccaac aaggttggtt   300
ttccanggga ccgttgggac caggcttttn gaatcaagaa tcccaaaggg cattcttttg     360
gattaaggaa nggtgccggg accggtgaaa gggaaaaaac tggtggaccc cataccaaaa     420
tgagaaccac ggtgagatgc cgaggagcac gtggagaaag gctttgcttc cggccactgg     480
cagaggggat cctgaggatg gtgcttgatg atgtacacat agggagacaa gggtgatgag     540
gcatgaactc aggataacca caacagcnat cacaaaggcc acaaagctct actgcctgtg     600
tgttgggtgc aggccagggc aatccagggg tgcaatgtca caagaaagaa agtggttgat     660
ggcacgggng ggccacagaa ggacaggcca cttgatgaag ggcttgtggg cactgcaatg     720
gccacgaaac caccagaccc aggaacccan ggccaagctt gcgcctgaag agcaaggcta     780
ctcatgaatg gcttccgtag tngtaaagga tagcaagatg gcaaaggcaa gccggtcatn     840
aagccatggc ttgccng                                                    857
```

<210> 42

<211> 620
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 8-10, 43, 611, 613
<223> N can be any nucleotide

<400> 42
gnnnttannn cattgcgccc tctagatgca tgctcgagcg gcncgccagt gtgatggata 60
tctgcagaat tcgcccttgt tgcgcaagga gtagatgaac ggattcaggg caagggagtg 120
ctgaggagat agacgggtat acactgggca caagtccatg agtaatcaag gcctgttatt 180
taaaaaaaaa aaaaaaaaag cttgaacaat atagaatccc attacccaga gatagactgg 240
atggtgaatt aaactttctg gtgaatttct ttccagatat ctctctatgc atatgtatac 300
acaagcaatt tttggaagaa aagatacttt ataaggataa gcctgaaaac tgcaacgaat 360
gcaatgtgga gaatgaaggc aagatgtggc gaagaagggc accacaatct ggtggctgag 420
agagtgcaac tgtcactaca gctaaaagga gagctggaga agctggtgag gacagtaaga 480
gatgaatctg gtttaagaca cgctgagtct caaatgccat ggctccccta ggttgcctct 540
tcagatgtaa atcttaagct caaagcaggt ggatgagaaa tcacatttca tagtccctgc 600
acagacggct ntnttgagct 620

<210> 43
<211> 608
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 10, 22-24, 27, 592
<223> N can be any nucleotide

<400> 43
gnnnnttaan tcattgcccc gnnngangca tgctcgagcg gccgccagtg tgatggatat 60
ctgcagaatt cgcccttccc atgtatttgc ttctcagcaa cttgtccttc tctgacctct 120
gcttctcttc cgtgaccatt cccaagttgt tacagaacat gcagaaccag gacccatcca 180
tcccctatgc ggactgcctg acccaaatgt acttcttcct gttatttgga gacctggaga 240
gcttcctcct tgtggccatg gcctatgacc gctatgtggc catctgcttc cccctgcact 300
acaccgccat catgagcccc atgctctgtc tcgccctggt ggcgctgtcc tgggtgctga 360
ccaccttcca tgccatgtta cacactttac tcatggccag gttgtgtttt tgtgcagaca 420
atgtgatccc ccactttttc tgtgatatgt ctgctctgct gaagctggcc ttctctgaca 480
ctcgagttaa tgaatgggtg atatttatca tgggagggct cattcttgca tccattccta 540
ctcatccttg ggtcctatgc aagaaatgct cctcatcctc aaggcccttc tntaagggta 600
tctgcaag 608

<210> 44
<211> 608
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 7, 9, 12, 20, 24, 26, 29, 31-32, 480, 530, 557, 579
<223> N can be any nucleotide

<400> 44
gnnnntnant cntgccctgn cccncngcnc nngcgccgcg gcggatggat atctgcagaa 60
ttcgcccttg ttactaagag tatagatgaa cggattcagg gcaagggagt gctgaggaga 120
tagacgggta tacactgggc acaagtccat gagtaatcaa ggcctgttat ttaaaaaaaa 180
aaaaaaagct tgaacaatat agaatcccat tacccagaga tagactggat ggtgaattaa 240
actttctggt gaatttcttt ccagatatct ctctatgcat gtgtatacac aagcaatttt 300

tggaagaaaa gatactttat aaggataagc ctgaaaactg caacgaatgc aatgtggaga 360
atgaaggcaa gatgtggcga agaagggcac cacaatctgg tggctgagag agtgcaactg 420
tcactacagc taaaaggaga gctggagaag ctggtgagga cagtaagaga tgaatctggn 480
ttaagacacg ctgagtctca gatgccatgg cttccctagg ttgcctcttn cagatgtaaa 540
tcttaagctc aaagcangtg gatgagaaat acacatttna tagtcacctg cacagacggt 600
tttttgat 608

<210> 45
<211> 602
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 14, 16, 19, 21, 23-24, 27, 38, 40, 50, 52, 520, 551
<223> N can be any nucleotide

<400> 45
catgccccgt cccncnagnt ncnngcnccg cggccgcnan ggatatctgn anaattcgcc 60
cttcctatgt atttacttct ccaacttctc cttcccatct ctatcattag aacccattca 120
tatacaccct acgaaacaag ggcgaattcc agcacactgg cggccgttac tagtggatcc 180
gagctcggta ccaagcttga tgcatagctt gagtattcta acgcgtcacc taaatagctt 240
ggcgtaatca tggtcatagc tgtttcctgt gtgaaattgt tatccgctca caattccaca 300
caacatacga gccggaagca taaagtgtaa agcctggggt gcctaatgag tgagctaact 360
cacattaatt gcgttgcgct cactgcccgc tttccagtcg ggaaacctgt cgtgccagct 420
gcattaatga atcggccaac gcgcggggag aggcggtttg cgtattgggc gctcttccgc 480
ttctcgctca ctgactcgct gcgctcggtc gttcggctgn ggcgagcggt atcagctcac 540
tcaaaggcgg naatacggtt atccacaaga atcaggggga taacgcaaga aaagacatgt 600
ga 602

<210> 46
<211> 620
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 6, 10
<223> N can be any nucleotide

<400> 46
gnnntnattn attgcattgg gccctctaga tgcatgctcg agcggccgcc agtgtgatgg 60
atatctgcag aattcgccct tagtgagtag atgaaagggt tcagcatggg ggtcaccaca 120
gtgtacatca tagccatgac agtgtccttt agagtagaac tattagctga tgagcataag 180
tagagaccaa taacggttcc atagaacagt gacaccacag ataggtggga gccacaagta 240
gagaaggcct tgcagacacc cttagaagaa gggaccttga ggatggagga gacaattctt 300
gcataggacc caaggatgag taggaatggg atgacaagaa tgagccctcc catgataaac 360
atcacccatt cattaactcg agtgtcagag aaggccagct tcagcagagc agacatatca 420
cagaaaaggt gggggatcac attgtctgca caaaaacaca acctggccat gagtaaagtg 480
tgtaacatgg catggaaggt ggtcagcacc caggacagcg ccaccagggc gagacagagc 540
atggggctca tgagggcggt gtagtgcagg gggaagcaga tggccacata gcggtcatag 600
gccatggcca caaggaggaa 620

<210> 47
<211> 607
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 572, 578, 594

<223> N can be any nucleotide

<400> 47
cnatgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt 60
cgcccttcca atgtatttgc ttctcagcaa cttgtccttc tctgacctct gcttctcttc 120
cgtgaccatt cccaagttgt tacagaacat gcagaaccag gacccatcca tcccctatgc 180
ggactgcctg acccaaatgt acttcttcct gttatttgga gacctggaga gcttcctcct 240
tgtggccatg gcctatgacc gctatgtggc catctgcttc cccctgcact acaccgccat 300
catgagcccc atgctctgtc tcgccctggt ggcgctgtcc tgggtgctga ccaccttcca 360
tgccatgtta cacactttac tcatggccag gttgtgtttt tgtgcagaca atgtgatccc 420
ccactttttc tgtgatttgt ctgctctgct gaagctggcc ttccctgaca ctcgagttaa 480
tgaatgggtg atatttatca tgggagggct cattcttgtc atcccattcc tactcaatcc 540
ttgggtctat gcaagaaatt gtcttcttca tnctcaangg ccctttcttc taanggtatc 600
ttgcaag 607

<210> 48
<211> 613
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 7, 9, 257, 266, 295, 313, 322, 331, 334, 338, 340, 345, 348, 356, 358, 365, 378, 397, 398, 402, 410, 447, 480, 536-537, 557, 563, 576, 580, 584-586, 606, 610-612
<223> N can be any nucleotide

<400> 48
annnccntng gagctccaaa gcagtggtaa caacgcagag tacgccccct atgtacttac 60
ttttgttaag tccaacctcc atcctccttg gccttttgat tcaattgatc actccttcct 120
cctcaaaaca ccttgttcac tcatcctttc tcagtctcct ttgtggattc ttcctcattt 180
atttgacctc ttgctggtga acccttttcat atacactctc cgtaacaaag agggcgtact 240
tctgtcgtct tgagcgnact gatggnaccc agcttttgtt ccctttagtg agggntaatt 300
gcgcgcttgg cgnaatcatg gncatagctg nttnctgngn gaaantgnta tttcgntnac 360
aattncacac aacatacnag ccgggagcat aaagggnnaa gncctggggn gcctaatgag 420
ggagcttact cacaataatt ggggtgngcc cactggcccc ttttcaggcg ggaaaacctn 480
gcggggccag ctggaataaa tgaatcgggc cacgcgccgg ggaggagggc gggttnngga 540
attgggcgct ttttccnttt ctnggttaat ggactnggtn ggcnnngtcc gttcggttgg 600
ggggancggn nnt 613

<210> 49
<211> 593
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 177, 298, 506, 515, 578, 582
<223> N can be any nucleotide

<400> 49
aacgcagagt accgcccact acgtaatctg tacatgaaag ggtttaaaag agactgggaa 60
gagaggaatt ggcaagatca agcagaggca actccttcta gtccttctag taccgcaagg 120
ggcagataaa tggaatgggt aacacctaga ggaaagtata cttgccaaaa gcaaatncat 180
agggggggagt acattatcgg gttgaaaaaa gtattccatg cagataaaaa ccaaaagcaa 240
atacatcggg ggcgtacttc tgtcgtcttt gagcgtactg atggtaccca gcttttgntc 300
ctttagtgag ggttaattgc gcgcttggcg taatcatggt catagctggt ttctgtgtga 360
aattgttatc ccgctcacaa ttcacacaac atacgagccc gggagcataa agtgtaaagc 420
ctggggtgcc taatgagtgg agcttactta cattaaattg cgttgcgctc actggccgct 480
tttccaagtc gggaaacctg tcgtgncagc ttcantaatg aatcggccaa cgccgcgggg 540
agaggcgggt tgcgtattgg gcgctcttcc gcttcttngt tnactgactt cgg 593

<210> 50
<211> 624
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-4, 11, 16, 20, 22
<223> N can be any nucleotide

<400> 50
gnnntttaac nccggngctn cnagcagtgg aacaacgcag agtacgcccc cgatgtactt 60
tctttttcag tctcaagtct tcctcttctc caaagatttt gtcttttcta ctacctgagc 120
taccaaatcc cttgtcatca atttcaataa ctgtattctc ttcatcattt caacttcaaa 180
cgtgtcatct cagaacaagc ttcatgttac ttccaatttt atccttcttg tttgctgatt 240
ccaagaattc cagtcccatc taggcccgca atgcattgtt cctgccaccc ttttcatatc 300
ctcaattccc ttgtatcatc actttccttt tatatagcac agattccatg attcataaca 360
ataattatgt tttttttgc atgtgctctt aatttccttt cttgctccta ttatcttcta 420
tcatactttt ctggaaacac taattctggt gaaatatact ctttgtggac tttgcactta 480
tgctcagtca gctgaagatg atggctagac aaatactcac aatcatgctg actggcccaa 540
tttatagtca tgaccaccga ttacaaaccc cttcatttat tctccgcaac aggggcgtct 600
tctgcgcttg agcgtccggt gggg 624

<210> 51
<211> 584
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 584
<223> N can be any nucleotide

<400> 51
gcagtggtaa caacgcagag tacgcccgtt acggaggctg taaataaagg ggttgaggaa 60
gtaaagtact tcacagtact ggagcacaca gcatgtgaat ttcagccaaa ggacaaatgc 120
ctccaaaaaa agttaattca cagtgcagca gggcgaggca cttgtcttat tcgctggttc 180
tcacattgac cctgaaagga cttttttttg ttaatcccat tttcacagat gggaaaggga 240
ctctgtatgg ttgtcacttt tatccaaagt ctcatagcca gtaagaagct gccctcaaag 300
tccctaccct gtcttccatt cgactattct gaggttcaga cccagaaacc ccatacctct 360
gccttatatt ttaatgaaaa gtatgtctcc aggtttatgt ggagaataac caagacctca 420
gaaacattta gtgaaaatca gagctagaag gaatctgttt ttttgcgagt tcagagaaac 480
tgacttggat aagacatcaa agttgtcttg tgcagcaaat tctcctccgg cacatagtag 540
gcactctgat aaattcaaaa aggcttctaa gaagaggcag aagn 584

<210> 52
<211> 613
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 6, 10-12, 16-17, 20, 553, 594, 607, 613
<223> N can be any nucleotide

<400> 52
gtgaanccan nntaannccn attggagctc caagcagtgg taacaacgca gagtacgccc 60
ccgatgtagt ttcttctttc cttccttccc tccttccttc cttctttcct ttctctctct 120
ctccctctcc ctctccctct ccctctctct ctcctttttc ttctccttcc tcctcctccc 180
cccaatccgt tcatgacttc ttcttcttcc tcttcttctt ctttctttct ttcttctttt 240

tctctaagca ggatcctggg ctgttcaaac cagagagctg taagtctttt ctttccccat 300
tactgttaga tccgttgaat cggctccaga aaccaaacaa gttaaccctt gcatttacac 360
gtttcgtaac gggcgtactt ctgtcgtctt gagcgtactg atggtaccca gcttttgttc 420
cctttagtga gggttaattg cgcgcttggc gtaatcatgg tcatagctgt ttcctgtggg 480
aaattgttat ccgctcacaa ttccacacaa catacgagcc gggagcataa aagtgtaaag 540
cctggggtgc ctnatgagtg agctaactca cattaattgc gttgcgctta ctgnccgttt 600
tcagtcngga aan 613

<210> 53
<211> 611
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 4-5, 7-9, 14-15, 601
<223> N can be any nucleotide

<400> 53
tnanncnnnt taannccccat tggagctcca aagcagtggt aacaacgcag agtacgcccc 60
cgatgtactt gcttcttctt ctttggagtg gctgaatgct tcctcctggc taccatggca 120
tatgaccgct atgtggccat ctgcagtccc ttgcactacc cagtcatcat gaaccaaagg 180
actcgtgcca aactggctgc tgcctcctgg ttcccaggct ttcctgtagc tactgtgcag 240
accacatggc tcttcagttt tccattctgt ggcaccaaca aggtgaacca cttcttctgt 300
gacagcccac ctgtgctgag gctggtctgt gcagacacag cactgtttga gatctacgcc 360
atcgtcggaa ccattctggt ggtcatgatc ccctgcttgc tgatcttgtg ttcctatact 420
cgcattgctg ctgccatcct caagatccca tcagctaaag ggaagaataa agccttttct 480
acatgttcct cacacctcct tggtggctct cttttctata tatcattaag cctcacctac 540
ttccggccta aatcaaataa ttcacctgag ggcacgaagc tgctatcatt gcctacactg 600
ntatgactcc a 611

<210> 54
<211> 606
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 4, 483, 509-510, 606
<223> N can be any nucleotide

<400> 54
gttnttccat ggactcccaa gcagtggtaa caacgcagag tacgcccccct atgtacttac 60
ttcttgctgg cttatcattt atagatatca tttattcttc atccatttcc cacagatcga 120
tttcagactt gttctttggg aataattcca tatccttccc atcttgcttg gcccagctct 180
ttacagagcg cctttttggt gggtcagagg tctttcttct gttggtgatg gcctatgacc 240
ttgcattact tggttatcat gagacaatgg gtgtgtgttt tgctgctggt agtgtcctgg 300
gttggaggat ttctgcactc agtatttcaa cttagtgtta tttatgggct cccattctgt 360
gacctcaatg tcattgatca tttttctgt gatatgcacc ctttattgaa actggtctgt 420
accgataccc atgttattgg cctcttagtg gtggcaatgg aggactaggt tgcactattg 480
ggnttctgct cttactcatc tcttatggnn catctgcact ctctaaagaa ccttagtcag 540
aaagggaggt gaaaagccct ctcaacctgc agttccacat aactgggggg tggtttcttc 600
tttgtn 606

<210> 55
<211> 630
<212> DNA
<213> Homo Sapien

<220>
<221> variation

<222> 4-5, 8-9, 12, 16, 19, 295, 298, 321, 472, 481, 573, 617
<223> N can be any nucleotide

<400> 55
ttannccnnt tnaatnccnt tggagctcca aagcagtggt aacaacgcag agtacgcccc 60
caatgtactt gcttcttctt ttttggggct gctgagtgct gcctcctggc caccatggca 120
tatgaccgct acgtggccat ctgtgacccc ttgcactacc cagtcatcat gggccacata 180
tcctgtgccc agctggcaag ctgcctcttg gttctcaggg ttttcagtgg ccactgtgca 240
aaccacatgg attttcagtt tcccttttg tggccccaac agggtgaacc acttnttntg 300
tgacagccct cctgttattg nactggtctg tgctgacacc tctgtgtttt gaactggagg 360
ctcttgacag ccactgccta attcattctc tttcctttct tgctgatcct gggatcctat 420
ttcgcattct cttcactatc tttaaggatg ccgtcagctg aggggaaaca tnagcattct 480
ncacctgttc cgcccacctc ttgggtggct ctctcttcta tagcactggc aatccttaac 540
gtattttccg accccaattc aagtgccttt ttntgagaag caaagaaact ggttgtcact 600
tttttttcac aaggggngac ttccaatgtt 630

<210> 56
<211> 631
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 4, 8-10, 493, 582
<223> N can be any nucleotide

<400> 56
gngntttnnn ccatggagct ccaaagcagt ggtaacaacg cagagtacgc cccccatgta 60
ctttcttctt ctttggagtg gctgaatgct tcctcctggc taccatggca tatgaccgct 120
atgtggccat ctgcagtccc ttgcactacc cagtcatcat gaaccaaagg actcgtgcca 180
aactggctgc tacctcctgg ttcccaggct ttcctgtagc tactgtgcag accacatggc 240
tcttcagttt tccattctgt ggcaccaaca aggtgaacca cttcttctgt gacagcccac 300
ctgtgctgag gctggtctgt gcagacacag cactctttga gatctacgcc atcgtcggaa 360
ccattctggt ggtcatgatc ccctgcttgc tgatcttgtg ttcctatact cacattgctg 420
ctgccatcct caaggtccca tcagctaaag ggaagaataa agccttttct acatgttcct 480
cacacctcct tgntgtctct cttttctata tatcattaag cctcacctac ttccggccta 540
aatcaaataa ttcacctgag ggcaagaagc tgctatcatt gncctacact gttatgactc 600
catgttgaac cccataattt attcattcag c 631

<210> 57
<211> 637
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 5-6, 76, 82, 92, 106, 122, 125, 142-143, 190, 214, 223, 244, 247, 259, 283, 290, 320, 402, 416, 455, 470, 529, 558, 561, 607, 618, 620, 630
<223> N can be any nucleotide

<400> 57
ttatnnccat tggagctcca aagcagtggt aacaaccgca gagtacgccc cccatgtatt 60
ttctttttct tggggnagct gnatgcttcc tnctggctac catggnatat gaccggctat 120
gnggncatct gcagtccctt gnnctcccag tcattatgaa ccaaaggaca cgggccaaac 180
tggctggtgn ttcctgggtc ccaagctttc ctgnagctac tgngcaagac cacaatggct 240
cttnagnttt ccattctgng gcaccaacaa ggtgaaccac ttntttctgn gacagccggc 300
tgtgctgaaa gctggtctgn tgcaagacac agcactgttt gagatctacg ccatcgtcgg 360
aaccattctg gtggtcaatg aacccctgct tgctgatctt gngttcctat actcgnattg 420
gtgctgctat ccctcaagaa cccatcaagc taaangggaa gcaataaagn cctttctcta 480
cgtgctcctt aacacctccc ttggtggcct ctcttttcta atataatcnt ctaagcctca 540
acctacttct tgggcctnaa ntcaaataaa ttcttctgga gaggcaagaa ggtggtattc 600

atttatncta cactggtngn gactccatgn tggaact 637

<210> 58
<211> 621
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 6, 9, 16, 19, 507, 597, 611
<223> N can be any nucleotide

<400> 58
gtnatnccnt ttaatnccnt tggagctcca agcagtggta acaacgcaga gtacgcccgt 60
tcctcagaca gtatatgaat gggttaaaaa tgggccagag cagatgcagg aagatcaaat 120
aggaggctac tgcagtagag tcaaatctag ggctgatggt ttcttgggat gcatagtaat 180
aggtagatag agaaagtctt taggaggtag aatggacagg acttcacaat gcattaaatg 240
tagggagaaa aaaaatgatt cctgggtttc tagcttgagc tagtagggat agtggtagaa 300
tttactgata tggaaaactg gaggaaaaag agtttggaag agaaagatgg caagttaaat 360
acctgtggga aatataatca cagacactaa ataggcagct gtgtgggtgg caaaggagag 420
ccatgggcta ggaacataca gtgggattcc ctggcatgtc attggttact gaagtcagag 480
tgtatgagac agcctaagga gagaatncac acaggagaag aaagaactaa acattcagtg 540
gctggccaga ggatgagaaa cccaagagat tggactgttt aggagcaaca gtgttgngaa 600
aagggagaaa nggttgaaat t 621

<210> 59
<211> 631
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 8, 9, 11, 29
<223> N can be any nucleotide

<400> 59
ggntttannc nctggagctc caaagcagng gtaacaacgc agagtacgcc cattgcgtag 60
cgtgtacata aaggggttgg agctgaagga ggagataaag aagaagacag ccagaacctt 120
gtcctctgtc ggagatcgca gggatcttgg gccgtagata ggtataagca aagggtgcat 180
agtagaaagt cactacagtg aggtgggtgc tgcaggtcga ataggccttc ttcctccctt 240
ctgcagagtg catgtggtag acagcaagga gaatccggcc ataggaacat gcaatacaaa 300
tgaagggaaa cacaagaaaa atggtggtgc tcaaaaacac cgtgcactca tagacccagg 360
tatccgtgca ggctagggtc aacatagctg gaacatcaca gaaaaaatga ttgatggctc 420
tggacttgca atatgggata cggagtgcat ataccgtgtg agcacaagag ttgatggagc 480
ctatcatcca agatcctgtt atcatcagtg cacacactct ttttctcata cggatgagat 540
agtggagagg aaagcaaata gccacataac gatcataggc cattgatgtc aggagcagcg 600
cttctgcacc tgctaaagtc aggaagaaga t 631

<210> 60
<211> 620
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 6, 10-11, 15, 18
<223> N can be any nucleotide

<400> 60
tgttantccn ntttnctncc attggagctc ccaagcagtg gtaacaacgc agagtacgcc 60
ctccttgttt ctgagagtgt agatgaaggg gttataggag ataaagatca gggcaatatg 120

taggacaagg acacagacac tgacaacaaa gttgattatc tcattgacag tggtgtctgt 180
gcaggccagc ttcagcaggg gtctcacatc acagaagaag tgggagatga caaagtcatc 240
acaaaagggc aggccaaaca tagatgttac ttggacaata gccatgccca ggccaatcct 300
cagtgaccca gatcccagtc agacacaagc cctcttacct atgaataccg taaggggttg 360
cagaagacca catagcaatc atatcccatg gctatgagaa gaaagcagtt gttgatgcca 420
aaagtcacat agaagagctg agtgacacag ccttgcatga caataagcta gtgaggattc 480
aagaggcgag aaagcatatg gggagtaatg gccaccatgt agcaggtctc agagatagac 540
agcaatgctt aggaaaaagt acatgggccg tacttctgtc gtcttgagcg tactgatggt 600
acccagcttt tgttcccttt 620

<210> 61
<211> 612
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3, 5-6, 9-10, 20, 25, 37-38
<223> N can be any nucleotide

<400> 61
gtnannccnn tgtagctccn aagcngagct aacaacnnag agaacaacgc agagtacgcc 60
cccgatgtac ttgttcctac tctttgctgg atttgaaaac ttcctcctgt ccgtgatggc 120
ctatgaccgg tttgtggcca tctgtcaccc cctgcactac atggtcatta tgaaccctca 180
cctctgtgga ctgctggttc tagcatcctg gaccatgagt gctctgtatt ccttgctaca 240
aatcttaatg gtagtacggc tgtccttctg cacagcctta gaaatccccc actttttctg 300
tgaacttaat caggtcatcc aacttgcttg ttctgatagc tttcttaatc acatggtgat 360
atattttaca gttgcgctgc tgggtggagg tcccctcact gggatccttt actcttactc 420
taagataatt tcttccatac atgcaatctc atcagctcag gggaagtaca aggcattttc 480
acctgtgcat ctcacctctc agttgtctcc ttattttatg gtgcaatcct aggggtgtac 540
cttagtctgc tgccacccgc aactcacact caagtgcaac agcctcagtg atgtacactg 600
gggcaccccc at 612

<210> 62
<211> 628
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-8, 13, 19, 22, 32, 35-41, 49
<223> N can be any nucleotide

<400> 62
gnnnnnnnat ttnatgccnt tnttgattcc cnttnnnnnn ncaagcagng gtaacaacgc 60
agagtacgcc ccctatgtat ttcttcctaa gatccaaata ttaaaataaa agacagtcat 120
cccaccacta actaaagtag tgtttcccac acttctctat taagaagcat gtgagatact 180
tgttacaaac ataacatcct ggtcccaccc caaagccact caatcaaata ctccagggaa 240
gggatctagg aattcgtagg tttaacgagt gccccaaaat gattattacc tgttggagaa 300
tctaggcaac aatgaattaa ggaaagctct ctaccatttg gtactggtac caggtttgag 360
gatcacaggg aagagggtaa gcatatcaga ctagcagagc tgccagaact cgggctttca 420
aaagagaggt gccaccctct cccatgtcca tgtaagtagc aaacaaccct ctcatgtaca 480
ctctgaggaa caagggggcg tacttctgtc gtcttgagcg tactgatggt acccagcttt 540
tgtcccttta gtgagggtta attgcgcgct tggcgtaatc atggtcatag ctgtttcctg 600
tgtgaaattg ttatccgctc acaattct 628

<210> 63
<211> 627
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 191, 214, 263, 271, 277, 303, 325, 333, 363, 418, 528, 570, 596, 614
<223> N can be any nucleotide

<400> 63
tgtagctcca aagcagtggt aacaacgcag agtacgccct cttggttacg taagggaata 60
gatgatgggg ttcagcatgg gggtgactac agtgtacatg acagtggcca cacggtccca 120
ctctgctcgc gtcgggacgt ggcctggaag tagactgcaa tgactgtcct atagaaagag 180
gctcaccaca nccaggtggg agccacaggt gggncacaag tcccggagcc tcccagaggc 240
ttgagggcag ctggagcacg ggnaagcttg ntatggnccc acaaggaggc gaggatgagc 300
agnaagggag tgaccaccac ttgcngcgcc ctnggtgaag atgagcagct tggatgtggt 360
ggntgtcaga gcacgagagc ctttaagaga ggcttggtgg gtcacagaag aagtgggngc 420
actttgtggg aaagcacaga aaggacaagc gagccatgag caggatatac aggagggagt 480
tgtccgtggg acaccagcca tgccattcca accagggctg cgcacatngc cggggacatt 540
ctcgtgggat aagggaaggg gtgccggatn ggcacgtatc agtcataggc cttggncgcc 600
agaagacagc tttnaattta ccccagg 627

<210> 64
<211> 605
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 5-6, 9, 11, 14, 17, 21-22
<223> N can be any nucleotide

<400> 64
gttannccnt ntanctncaa nngaggtaac aacgcagagt acgcccccca tgtatttgct 60
tcttgtccaa cctgtccttt gtagagatct gctacaccac cgttgtggtg cccttgatgc 120
tttccaacat ttttggggcc cagaagccca ttccattggc tggatgtggg gcccaaatgt 180
tcctctttct cacacttggt ggtgctgact gtttcctctt ggcgatcgtg gcctatgacc 240
gctatgtggc catctgccac cctttgcact acccctcatc atgacctgca gtctgtgcgt 300
gcagatgctg ggcggcgctg tgggcctggc cctcttcctc tccctgcagc tcaccgcctt 360
aatcttcacc ttgcccttct gcggctaccg ccaggaaatt aaccacttcc tctgcgatgt 420
acctccgtcc tgcgcctggc ctgcgctgca tccgtgttca ccaggctgcc tctatgtcgt 480
gagcatcctc gtgctgaccg tccccttctt gctcatctgc gtctcctacg tgttcatcac 540
ctgtgccatc ctgagcatcc gttctgctga gggccggcac caggcctttt caactgctct 600
tccgg 605

<210> 65
<211> 609
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 10, 14-15, 19, 22, 67, 603
<223> N can be any nucleotide

<400> 65
tgtagctccn aagnngagnt ancaacgcag agtacgcccg cggaatctat agatgaaagg 60
gtttggngag tcagaagaag gaagtacatg ggagtcataa cagtgtagga caatgatggc 120
agcttcttgc cctcaggtga attatttgat ttaggccgga agtaggtgag gcttaatgat 180
atatagaaaa gagagacaac aaggaggtgt gaggaacatg tagaaaaggc tttattcttc 240
cctttagctg atgggatctt gaggatggca gcagcaatgt gagtatagga acacaagatc 300
agcaagcggg ggatcatgac caccagaatg gttccgacga tggcgtagat ctcaaagagt 360
gctgtgtctg cacagaccag cctcagcaca ggtgggctgt cacagaagaa gtggttcacc 420
ttgttggtgc cacagaatgg aaaactgaag agccatgtgg tctgcacagt agctacagga 480
aagcctggga accaggaggt agcagccagt ttggcacgag tcctttggtt catgatgact 540

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gggtaagtgc aagggactgc agatggccac atagccggtc atatgccatt ggtagcccag    600
gangaagct                                                            609

&lt;210&gt; 66
&lt;211&gt; 617
&lt;212&gt; DNA
&lt;213&gt; Homo Sapien

&lt;220&gt;
&lt;221&gt; variation
&lt;222&gt; 6, 20
&lt;223&gt; N can be any nucleotide

&lt;400&gt; 66
gttatncctt gttgctcccn agcagaggta acaacgcaga gtacgcccct atttctcaga     60
tatangatga aggggttcag aaaaagaatg agcaaagaaa atctgggcca ggcgggcatc    120
aaaagaaata gtcttgtgct caaccagaaa gtctgcaatc attttagggg tagcagaaga    180
ggcaacacat acgtctataa atgacaggtt ggcaagaagc aaatacattg gggcgtact    240
tctgtcgtct tgagcgtact gatggtaccc agcttttgtt ccctttagtg agggttaatt    300
gcgcgcttgg cgtaatcatg gtcatagctg tttcctgtgt gaaattgtta tccgctcaca    360
attccacaca acatacgagc cgggagcata aagtgtaaag cctggggtgc ctaatgagtg    420
agctaactca cattaattgc gttgcgctca ctgcccgctt tcagtcggga aacctgtcgt    480
gccagctgca ttaatgaatc ggccaacgcg ccggggagag gcggtttgcg tattgggcgc    540
tcttccgctt ctcgctcact gactcgcttg cgctcggtcg ttcggcttgc ggcgagcggt    600
atcaagctca ctcaaat                                                   617

&lt;210&gt; 67
&lt;211&gt; 621
&lt;212&gt; DNA
&lt;213&gt; Homo Sapien

&lt;220&gt;
&lt;221&gt; variation
&lt;222&gt; 10, 17, 28, 277, 286, 370, 373, 422, 513, 527, 536, 545, 548, 550, 558,
563, 566, 572, 574, 579, 583, 603-604, 609, 621
&lt;223&gt; N can be any nucleotide

&lt;400&gt; 67
gggttttacn ctgtgcnccc ccagcagngg taacaacgca gagtacgccc ttgttgcgaa     60
gaaataaatg aatgggttta aaatagacgt gaagatggtg tagaatacag caaggacttt    120
gtcaactgag taactgctga agggccacac atagatgaaa atacacgatc caaagaataa    180
agtgaccaca gtgatgtgag cagtcaatgt ggagtgggcc ttcaccatgc ttacagagga    240
gcgattccta actgtaataa gtattacagt gtagganaca accaanagga gaaaggaact    300
cagagaaaga aagccaccat ctgcaactat tagtaggctg acaacataag tgtctatgca    360
ggctaacttn gtngctagag gaaggtcaca gaaaaaaact atctacctta ttaggaccac    420
anaatggcag attaaccgtg aatgccaact ggctggtggt atggatgaag cccacaaacc    480
aggaaatgag gacgagcaca acacatacac agnagctcat gattganatg tagtgnggag    540
gtttnctntn gctcatancc gtnttngcca tngnaactng gancaccatt ttacttgcag    600
tgnnggagng aacatgaaat n                                              621

&lt;210&gt; 68
&lt;211&gt; 611
&lt;212&gt; DNA
&lt;213&gt; Homo Sapien

&lt;220&gt;
&lt;221&gt; variation
&lt;222&gt; 5-6, 9-10, 17, 19, 298, 464, 519, 549
&lt;223&gt; N can be any nucleotide
```

<400> 68
gttannccnn tttaatncna tggagctcca aagcagtggt aacaacgcag agtacgcccc 60
cgatgtactt gttcctactc tttgctggat ttgaaaactt cctcctgtcc gtgatggcct 120
atgaccggtt tgtggccatc tgtcaccccc tgcactacat ggtcattatg aaccctcacc 180
tctgtggact gctggttcta gcatcctgga ccatgagtgc tctgtattcc ttgctacaaa 240
tcttaatggt agtacggctg tcttctgcac agccttagaa atcccccact ttttctgnga 300
acttaatcag gtcatccaac ttgcttgttc tgatagcttt cttaatcaca tggtgatata 360
ttttacagtt gcgctgctgg gtggaggtcc cctcactggg atcctttact cttactctaa 420
gataatttct tccatacatg caatctcatc agcttagggg aagnacaagg cattttccac 480
ctgtgcatct cacctttcag ttgctcctta ttttatggng caatctaggg gtgaccttag 540
ttttgctgnc acccgcaact cacacttaag tgcaacaacc tcagtgatgt acactggggt 600
caccccatgc c 611

<210> 69
<211> 625
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2, 4-6, 11, 15-16, 40, 42, 45, 47, 52, 61, 64-66, 74-75, 77, 80, 586, 618
<223> N can be any nucleotide

<400> 69
gngnnncgag nttanncctt ggactcccag tagagctacn angantncgc cnagcgcgca 60
nttnnnccag ggtnntnttn gtatcaccaa tgaatagaaa acagacacca ccttgtccct 120
gcctagcaag tagctggagc tgggtcgcaa gtacacgaaa agggctgtcc caaacagcag 180
agtcaccacc atcagatgcg aggcacacgt gttgcaggct ttccatcggc cctctgctga 240
agggatcttc aggaccgcag acactatgta accataggag ataaggagtt ggaggaacga 300
tgttcctccg acggtgacca ccacgaggaa attcaccact tgactgagga aggtgtcaga 360
gcaagacaga gccaggactg gtgggaggtt gcagaagaag tggttgatga tgttgggtcc 420
gcaaaagtga agcctaaata tggagctggc ctggatcagg gagctcagga agccaccaac 480
atatgcccca accaccatgc gtgtacagag gccctgggtc atgatagtgg ggtanagaag 540
ggggctggag atggcttgca tatcggtcgt atgccatagc agtcangagg aggcactcaa 600
gacagaccca tgccgacnaa gaaat 625

<210> 70
<211> 626
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-5, 17-18, 24, 34, 42, 584
<223> N can be any nucleotide

<400> 70
gnnnntttta cccctgnngc acanagcagt ggtnacaacg cncgagtacg cccccctatgt 60
atttttttcct attctggaca cgctactcct gaccgtgatg gcctatgacc ggtttgtggc 120
tgtctgccac cctctgcact atatgatcat catgaacccc cacctctgtg gcctcctggt 180
ttttgtcacc tggctcattg gtgtcatgac atccctcctc catatttctc tgatgatgca 240
tctaatcttc tgtaaagatt ttgaaattcc acattttttc tgcgaactga cgtacatcct 300
ccagctggcc tgctctgata ccttcctgaa cagcacgttg atatacttta tgacgggtgt 360
gctgggcgtt tttcccctcc ttgggatcat ttctcttat tcacgaattg cttcatccat 420
aaggaagatg tcctcatctg gggaaaaaca aatagcactt tccacctgtg ggtctcacct 480
ctccgtcgtt tctttatttt atgggacagg cattggggtc cacttcactt ctgcggtgac 540
tcacccttcc cagaaaatct ccgtggcctc ggtgatgtca ctgnggtcac ccccatgttg 600
accctttcat ttacaccctt agcaag 626

<210> 71

<211> 633
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-10, 4, 7, 10-11, 33, 35, 39, 50, 57, 60, 61-62, 65, 84-85, 441, 615, 617, 632
<223> N can be any nucleotide

<400> 71
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gnnnnnnnnn gttnatnccn nttttaatgc cantngagnt aacaacgcan gagtacnccn      60
nngngtacgc ccagggttca accnntgaat agaaaacaga caccaccttg tccctgccta     120
gcaagtagct ggagctgggt cgcaagtaca cgaaaagggc tgtcccaaac agcagagtca     180
ccaccatcag atgcgaggca cacgtgttgc aggctttcca tcgccctctg ctgaagggat     240
cttcaggacc gcagacacta tgtaaccata ggagataagg agttggagga acgatgttcc     300
tccgacggtg accaccacga ggaaattcac cacttgactg aggaaggtgt cagagcaaga     360
cagagccagg actggtgggg aggttgcaag aagaagtggt tgatgattgt tgggtcccgc     420
aaaagtgaaa gcctaaatat ngagctggcc tggatcaggg gagctcagga agccacaaca     480
tatgccccaa ccaccatgcg tgtacagagg ccctgggtca tgatagtggg ggtngagaag     540
ggggcctgga gatggctgca tatcggtcgt tgccatagca agtcaggagg aggcacttca     600
gacagaccca tgccncnaag aaaaaaaact gnc                                  633
```

<210> 72
<211> 614
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 2-11, 14-17, 19-20, 22, 28, 42-43, 45, 51, 76, 82-83, 85, 101, 106, 110, 112-114, 117, 119, 135, 139, 434, 507, 520, 614
<223> N can be any nucleotide

<400> 72
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gnnnnnnnnn nttnnnncnn tnactccngc agtggtaaca annantacgc ncagcgcgca      60
gttaaccctc actaanggta anntnagctg gaacacatca ntacgntcan gnnngcncna     120
tgaccggttt gtggncatnt gtcacccccct gcactacatg ggtcattatg aaccctcacc    180
tctgtggact gctggttcta gcatcctgga ccatgagtgc tctgtattcc ttgctacaaa     240
tcttaatggt agtacggctg tccttctgca cagccttaga aatcccccac tttttctgtg     300
aacttaatca ggcatccaac ttgcttgttc tgatagcttt cttaatcaca tggtgatata     360
ttttacaggt tgcgctgctg ggtggaggtc ccctgactgg gatcctttac tcttactcta     420
aagataattt cttncataca tgcaatctca tcagctcaag gggaagtcaa ggcatttttc     480
acctgtgcat ctacccctca gttgctnctt attttatggn gcaatcctag gggtgacctt     540
agttctggtg gcacccgcaa ctacactcaa tgcacaagct cagtgatgta cactgtggca     600
cccatgctga accn                                                       614
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<210> 73
<211> 630
<212> DNA
<213> Homo Sapien

<220>
<221> variation
<222> 3-6, 8-10, 17, 124, 144, 146, 173, 184, 193, 212, 220, 266, 274, 276, 288, 306, 419, 423, 448, 474, 485, 500, 552, 555, 576, 588, 591, 606
<223> N can be any nucleotide

<400> 73
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gtnnnncnnn ttgattncca ttggagctcc aaagcagtgg taacaacgca gagtacgccc      60
cctatgtatt ttttcctatt ctggacacgc tactcctgac cgggatggcc tatgaccggg     120
```

```
ttgnggctgg ctgccaccct ctgnantata tgatcatcat gaacccccac ctntgtggcc    180
tccnggtttt tgncacctgg ctcattggtg tnatgacatn cctcctccat atttctctga    240
tgatgcatct aatcttctgt aaagantttg aaantncaca tttttttntg cgaactgacg    300
tacatnctcc agctggcctg ctctgatacc ttcctgaaca gcacgttgat atactttatg    360
acgggtgtgc tgggcgtttt tccctccttg ggatcatttt cttcttattc acgaattgnt    420
ttnatccata aggaagaatg tcctcatntg ggggaaaaca aataagcact tttncacctg    480
tgggnctcaa cctcttccgn cgtttcttta ttttatgggg acaggcattt ggggtcccac    540
tttacttttt gnggngactc accccttcca gaaaantttc cgtgggcntc ngggatgtac    600
actggnggca cccccatgtt gaacccttt                                      630
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<210> 74
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3,12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 74
ccnatgtayt tnctccta 18

<210> 75
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 75
ccnatgtayt tnctcctc 18

<210> 76
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
<221> variation
<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 76
ccnatgtayt tnctcctg 18

<210> 77
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
<221> variation
<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 77
ccnatgtayt tnctcctt 18

<210> 78
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 78
ccnatgtayt tnctctta 18

<210> 79
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

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<222> 9
<223> y = t/u or c

<400> 79
ccnatgtayt tnctcttc 18

<210> 80
<211> 18
<212> DNA
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<222> 3, 12

<223> N can be any nucleotide

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<222> 9
<223> y = t/u or c

<400> 80
ccnatgtayt tnctcttg 18

<210> 81
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

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<222> 3, 12
<223> N can be any nucleotide

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<222> 9
<223> y = t/u or c

<400> 81
ccnatgtayt tnctcttt 18

<210> 82
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
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<222> 9
<223> y = t/u or c

<400> 82
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<210> 83
<211> 18
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<222> 9
<223> y = t/u or c

<400> 83
ccnatgtayt tncttctc 18

<210> 84
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 84
ccnatgtayt tncttctg 18

<210> 85
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

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<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 85
ccnatgtayt tncttctt 18

<210> 86
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

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<222> 3, 12
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<222> 9
<223> y = t/u or c

<400> 86
ccnatgtayt tnctttta 18

<210> 87
<211> 18
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<223> y = t/u or c

<400> 87
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<210> 88
<211> 18
<212> DNA
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<223> y = t/u or c

<400> 88
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<210> 89
<211> 18
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<222> 9
<223> y = t/u or c

<400> 89
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<210> 90
<211> 18
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<223> y = t/u or c

<400> 90
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<210> 91
<211> 18
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<222> 9
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<210> 92
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<223> y = t/u or c

<400> 92
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<223> y = t/u or c

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<210> 95
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<223> y = t/u or c

<400> 95
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<210> 96
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<223> y = t/u or c

<400> 96
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<210> 97
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

<221> variation
<222> 9
<223> y = t/u or c

<400> 97
ccnatgtayt tnttcttt 18

<210> 98
<211> 18

<212> DNA
<213> Unknown: Synthetic construct

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<222> 3, 12
<223> N can be any nucleotide

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<222> 9
<223> y = t/u or c

<400> 98
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<210> 99
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 3, 12
<223> N can be any nucleotide

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<222> 9
<223> y = t/u or c

<400> 99
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<210> 100
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<223> y = t/u or c

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<210> 101
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<221> variation
<222> 9
<223> y = t/u or c

<400> 102
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<210> 103
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<212> DNA
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<210> 104
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<210> 105
<211> 18
<212> DNA
<213> Unknown: Synthetic construct

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<222> 3, 12
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<221> variation
<222> 9
<223> y = t/u or c

<210> 106
<211> 31
<212> DNA
<213> Unknown: Synthetic construct

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<222> 4, 7, 10, 13, 20, 23, 26
<223> N can be any nucleotide

<220>
<221> variation
<222> 1, 2, 8, 12, 15
<223> y = t or c

<220>
<221> variation
<222> 11, 29
<223> r = a or g

<400> 106
yytngtnytn ryncygatan atnatnggrt t 31

<210> 107
<211> 28
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 6, 9, 12, 17, 23
<223> N can be any nucleotide

<220>
<221> variation
<222> 1
<223> y = t or c

<220>
<221> variation
<222> 3, 14, 20, 26
<223> r = a or g

<220>
<221> variation
<222> 8
<223> k = t or g

<220>
<221> variation
<222> 13
<223> w = t or a

<400> 107
ytrttnckna gnwrtanatr aanggrtt 28

<210> 108
<211> 32
<212> DNA
<213> Unknown: Synthetic construct

<220>
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<222> 9, 12, 15, 21, 24, 27
<223> N can be any nucleotide

<220>
<221> variation
<222> 3, 23
<223> y = t or c

<220>
<221> variation
<222> 6, 18, 30
<223> r = a or g

<220>
<221> variation
<222> 11
<223> k = t or g

<220>
<221> variation
<222> 17
<223> w = t or a

<220>
<221> variation
<222> 26
<223> s = g or c

<400> 108
tcyttrttnc knagngwrta naynasnggr tt 32

<210> 109
<211> 32
<212> DNA
<213> Unknown: Synthetic construct

<220>
<221> variation
<222> 3, 9, 12, 15, 21, 24, 27
<223> N can be any nucleotide

<220>
<221> variation
<222> 6, 14, 18, 30
<223> r = a or g

<220>
<221> variation
<222> 11
<223> k = t or g

<220>
<221> variation
<222> 5, 16
<223> s = g or c

<400> 109
tcntsrttnc knarnsarta natnatnggr tt 32

<210> 110
<211> 27
<212> DNA
<213> Unknown: Synthetic construct

<220>
<221> variation
<222> 4, 7, 10, 16, 22
<223> N can be any nucleotide

<220>
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<222> 1, 9, 13, 19, 25
<223> r = a or g

<220>
<221> variation
<222> 6
<223> k = t or g

<220>
<221> variation
<222> 12
<223> w = t or a

<220>
<221> variation
<222> 11
<223> s = g or c

<400> 110
rttncknarn swrtanatra anggrtt 27

<210> 111
<211> 886
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 7, 11, 16, 18, 21, 209, 231, 258, 259, 266, 267, 269, 282, 287, 289, 301, 308, 314, 315, 316, 319, 321, 325, 329, 337, 338, 339, 346, 368, 383, 385, 393, 398, 412, 413, 416, 417, 420, 439, 440, 442, 447, 453, 459, 474, 479, 484, 488, 499, 508, 513, 521, 526, 536, 541, 549, 559, 574, 579, 587, 590, 596, 597, 601, 602, 610, 618, 622, 633, 635, 648, 649, 650, 652, 654,

661, 666, 688, 690, 692, 698, 705, 713, 720, 724, 726, 731, 732, 736, 771, 788, 790, 795, 801, 802, 807, 811, 817, 829, 836, 840, 846, 849, 850, 855, 859, 870, 872, 874, 877, 878, 886
<223> n = any nucleotide

<400> 111
ggtcccntcg ngtatncntt naccctctga tgctgctcga gcggccggca gggtgatgga 60
tatctgcaga attcgccctt ctgttacgca ggaatatata aaggggttac tgaggaataa 120
ataaatgggt tactgaggaa taaataaatg ggttactgag gaacaaatac atagggttga 180
aagaactgta aaatagaaaa aggaccttnt gctgctcctc aggatggcgg nacttagggg 240
ccatgtacat gacgatgnng ctgccnntna agagtcccac tnctcancng cctcagcccg 300
ncttttttnct cacnnnccnt ntttntctnc cctcttnnnc tctttncttc ctattccccc 360
cccttccnct cctccctttt gcntnaccat tgnccctnat ccctttaatt cnntcnntcn 420
tctcccctct attccttcnn tnttcgnctt cantctctnc ctctttctcc cccnctttct 480
ctcntctnct cttcctctng tcatcctngt tcnttctctt ncctanttcc ctctanccttt 540
ntcttattnc tcctctatnc cctctcatct cacntctcnt cctctcntcn tacttnnctc 600
nnctcttccn ctccgtcntc cnctttctct tcntnacgcc acccctcnnn cntnctctct 660
ntctcntcct cactctctcc tctccctncn cntcactntt ctccncctct acntcctatn 720
ctcncnttct nncttnactt tgtcacgctc tcctcctcct ctctacgcac nttttatctc 780
ttatctcncn catcncccctc nnttctncac nctattnact cttttctcnc atactntatn 840
ctcctntcnn cttanatcnc ctcccttctn tnanccnntc actgcn 886

<210> 112
<211> 625
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 13, 31, 36-37, 40, 45-48, 50, 53-54, 61, 63, 67-68, 70, 473, 512, 523, 526, 535, 542-543, 545, 549, 558, 566, 571, 582, 589, 593-594, 603, 612-614, 616, 621, 623-624
<223> n = any nucleotide

<400> 112
gctgctcgag cgncgcagcg tcggcagtgt nagggnnatn tgccnnnntn gcnnttagat 60
nanaggnntn agtatggggg tgaccacagt ggtacataac tgaggctgtt gcacttgagt 120
gtgagttgcg ggtggcagca gaactaaggt acacccctag gattgcacca taaaataagg 180
agacaactga gaggtgagat gcacaggtgg aaaatgcctt gtacttcccc tgagctgatg 240
agattgcatg tatggaagaa attatcttag agtaagagta aaggatccca gtcaggggac 300
ctccacccag cagcgcaact gtaaaatata tcaccatgtg attaagaaag ctatcagaac 360
aagcaagttg gatgacctga ttaagttcac agaaaaagtg gggatttct aaggctgtgc 420
agaaggacag ccgtactacc attaagattt gtagcaagga atacagagca ctnatggtcc 480
aggatgccag aaccagcagt cacagagggt gngggtttca tantgnccct gtagngtcag 540
cnncngacna gatggccnca aaccgntctt nggccctcac gnccctggna ggnngtttc 600
tantccacca cnnntnttct nannc 625

<210> 113
<211> 625
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 6-7, 30, 113, 128, 137, 142, 150, 157, 174, 297, 310, 313, 335, 354, 356, 377, 382, 385, 389, 393, 421, 429, 431, 433, 435, 438, 440, 442-443, 446, 455, 457, 465, 467, 477, 488, 491, 501-502, 504, 508-509, 515, 522, 525-526, 529-530, 542, 557-559, 561, 564, 565, 568, 577, 579-581, 584, 587-589, 591, 596-603, 607-610, 612-613

<223> n = any nucleotide

<400> 113
catgcnngag caggctcgag cgccggcagn gtgagggata tctgcagaat tcgcccttcc 60
tatgtacttt ttcctgagcg tatacacaat cccatcatgt actggggaga agncagacca 120
tatcattnac aagctgnctt tngcagatgn actttgnttt ctcattaggc tgcncagagt 180
acttcctcct ggcagccatg gcttatgacc gctgtcttgc catctgctat cctttacact 240
acggagccat catgagtagc ctgctctcag cgcagctggc cctgggctcc tgggtgngtg 300
gtttcgcgcn cantgcagcg cccacagccc tcagnagcgg tcttgctctt ctgngncccc 360
cgtgccatta accactnctt tngcngcant gcnccctgca ttgtcttgtc ctgcccacca 420
nacagcagna nancntgngn cnnttngatc gctgntncgc tctcngntct cactccnttc 480
cacctttncc ntcgcattcc nntntccnnc tcgcnctcct gnccnntcnn tctcctcttc 540
tnaacgcgtc ctccganng nctnnatgnt cgtctcntnn ntgngcnnng ncagcnnnnn 600
nnnccannnn tnngtgcgcc gctcc 625

<210> 114
<211> 651
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 2, 12-13, 20, 23, 188, 375, 399, 402, 416, 443, 460, 472, 474-475, 480, 484, 487-488, 502, 505, 522-523, 529, 532, 537-538, 546, 553, 555, 557, 561, 564-565, 573, 575, 577, 581, 583, 586, 591, 594, 617, 634, 636, 643
<223> n = any nucleotide

<400> 114
gnttaagccc tnncccctctn gangcatgct cgagcggccg ccagtgtgat ggatatctgc 60
agaattcgcc cttgttccgc aaacaataga tgaaaggatt aagtgaagga gtgcccaccg 120
catagaagag accaaagaac ttgcccctcc cttgggcata cggatttttg ggctggaggt 180
agacagcnat gactgagctg tagaagaggg tgaccacagt gagatgggag gagcaggtcc 240
caaaggcctt tctccatgct gtggcagagt taatcctcag cactgcctgg gcagtggctc 300
cataagaggc aaggatgagg ctgagaggca caaccacgaa gatgacactg gacacagcca 360
actggatttc attgnaggag gcatctccac aggagagtnc gnatcagaga tggganccte 420
acataaaaaa gtcatctatc tgntggtggg gacagaatgn ccatgtggag gntnnatgtn 480
cgtntcnnac ctcttatttt tnttnccccct ttctttcgct cnntccccnt tntcccnnct 540
cgccanttcc atncncntct ntcnnttttt ttntntnacc ntnttntcat ntcntctctt 600
tattctcttt ctcttgnctc tcccttctct ctcntnttcc canctctccc g 651

<210> 115
<211> 850
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 3, 15, 279, 288, 292, 295, 296, 299, 307, 309, 317-319, 322, 326-327, 329, 335, 340, 343, 345-346, 354, 362, 367-368, 377, 380-382, 386, 391, 394, 396, 399-400, 410, 412, 415-416, 418, 433, 436, 442, 444, 451, 455, 466, 468-469, 471, 474, 482, 488, 490, 500, 505, 514, 516, 522, 530, 537, 548, 550, 552, 559, 562-565, 569, 570, 571-573, 576, 581, 592, 597, 603, 605-606, 608, 617, 619, 624, 627, 630, 635-636, 643, 647, 653, 661-663, 667, 673-675, 678, 690, 697-698, 709-711, 720, 724, 727, 731, 736, 746, 760, 768, 771, 783-784, 789, 791, 794, 796, 797, 800-801, 808, 810, 816, 818, 821-822, 832, 836
<223> n = any nucleotide

<400> 115
ggntctcggt acaanacttg gccctctaga tgcatgctcg agcggccgcc agtgtgatgg 60

atatctgcag aattcgccct tccaatgtat ttattcctgt tatttggaga cctggagagc 120
ttcctccttg tggccatggc ctatgaccgc tatgtggcca tctgcttccc cctgcactac 180
accgccatca tgagccccat gctctgtctc gccctggtgg cgctgacctg ggtgctgacc 240
accttccatg ccatgttaca cactttactc atggccagnt tgtgcttntg tnccnnacna 300
ttgttgntnc cccactnnnc tntgtnntna gtctnctctn ccntnnactg ctcntcctct 360
tnctccnnga gtcctcnggn nncgtngtcg nttncngcnn tcaattgcan tnccnncntc 420
atcctttctt tanttntcca tntnttcact nattnctctt tatccncnnt ntcnccctcc 480
anctcctncn tagcttactn tttcntgctc tccngngctc anccttttcn ccatatnttc 540
ttctctcncn tntctctcnc tnnnncccnn nnntcntcgt ntctctgctc cntcttnacg 600
tcntnncnct tatttantnt ctcnccnctn tctcnngctc cancgcngta ccngccctat 660
nnnctcntcc gannntgntc atggcatctn cacattnngc cctactatnn ncgatctatn 720
ttcncgncat ntattncaca tccacntgca ctcctactcn ctctctancc nccgtacatc 780
gcnnctacng ntgncnntcn nccgctcntn cggccncnat nnctccactt tntctnggtc 840
cccctctccg 850

<210> 116
<211> 620
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 451, 479, 501, 533, 542, 550, 553, 561, 572, 582, 585, 600, 604-605
<223> n = any nucleotide

<400> 116
gatgcatgct cgagcgcccg cagtgtgatg gatatctgca gaattcgccc ttccaatgta 60
ctttttcctg aagaacctct ctgttttgga tctgtgctac atctcagtca ctgtgcctaa 120
atccatccgt aactccctga ctcgcagaag ctccatctct tatcttggct gtgtggctca 180
agcctatttt ttctctgcct ttgcatctgc tgagctggcc ttccttactg tcatgtctta 240
tgaccgctat gttgccattt gccacccccct ccaatacaga gccgtgatga catcaggagg 300
gtgctatcag atggcagtca ccacctggct aagctgcttt tcctacgcag ccgtccacac 360
tggcaacatg tttcgggagc acgtttgcag atccaatgtg atccaccagt tcttccgtga 420
catccctcag gtgttggccc tggtttcctg ngaggttttc tttgtagagc tttgacccng 480
ccctgagcct caatgcttgg ntctgggatg ctttattccc atgatgatct ccnatttcc 540
anatcttctn aangggctc nagaatccct tnaggaccag antcnagcta aaagcctttn 600
cccnnctgct tccccccacg 620

<210> 117
<211> 628
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 5, 9, 403, 505, 552
<223> n = any nucleotide

<400> 117
tggcnctcng atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc 60
ttccaatgta tttgttcctg ttatttggag acctggagag cttcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctggtg gcgctgtcct gggtgctgac caccttccac gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgcat cccattccta ctnatccttg ggtcctatgc 420
aagaattgtc tcctccatcc tcaaggtccc ttcttctaag ggtatctgca aggccttctc 480
tacttgtggc tcccaccctg tctgnggtgt cactggttct atggaaccgt tattggtctc 540
tacttatgct cntcagctaa tagttctact ctaaaggaca ctgcatggct atgatgtaca 600

ctgtggtgac ccccatgctg aacccctt 628

<210> 118
<211> 783
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 17, 25, 184, 187-188, 199, 202, 206, 212, 214-215, 223, 227-228, 232, 248, 250, 252-253, 255-256, 261-264, 266, 268, 271, 273, 276, 278, 284, 289, 292, 295-296, 298, 300-302, 306, 310, 315-316, 320-322, 325, 329, 333, 337, 340-341, 346, 349, 355, 369, 371, 373-374, 379-380, 383-384, 387-388, 391, 402, 407, 409, 417, 419-420, 436-437, 441-442, 445, 447-448, 450, 456-458, 461, 469, 472, 477-479, 486-487, 490, 493, 503, 510, 512, 517, 530, 540, 542, 544, 552-553, 565, 572, 587, 595, 597-598, 600, 611, 614, 617-618, 622-623, 625, 634-636, 639, 644-645, 646, 652-653, 663, 665, 668, 673-674, 679, 681, 683, 695-696, 699, 706, 710, 712, 716, 725-726, 731-732, 741, 745, 748-750, 763, 771, 774, 776, 772, 774-775, 777-778, 780, 782
<223> n = any nucleotide

<400> 118
gatgatgctc gagcggncgc agtgngatgg atatctgcag aattcgccct tcccatgtat 60
ttgttcctga gcaacctctc cttcctggag atttggtata ccacagcagc agtgcccaaa 120
gcactggcca tcctactggg gagaagacag accatatcat ttacaagctg ccttttgcag 180
atgnacnntg ttttctcant angccntaca gngnncatgt ttncgcnngc cntgacttat 240
gacgcgcntn cnncnntatc nnnntntnct ntnacncnac ttcntcatna tntgnncntn 300
nnttcncctn tggcnnctcn nntcncggnc ttncctntgn ncgtcntcnc ccttnggcct 360
gcatctctnc ntnntcctnn ccnncgnnct ntctttcctt cntaccntnt ttctgtntnn 420
tccctcccct ctctgnntgc nnctncnncn catctnnntg ntctgatcnc tntcttnnnt 480
ccatcnngtn ctntttctctc gtntcttctn cncgccncct gcatcactgn gcattatatn 540
cncngtctca tnnctatctt ccgtncttgt cncttctcct ctatgcncga cgtcntnntn 600
tactatcgtc ntcntcnnat tnngncctgt tccnnngcnc ccgnncntcc anntactctc 660
cangntcntc ctnntcctnt ncnctgtcta attcnnctnt accgcntctn gnctcntcct 720
cgtcnntccc nncttcctcc nctcncgnnn ccnttcagct ntcnanttct antnngnncn 780
cnc 783

<210> 119
<211> 674
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 1, 2, 114, 207, 212, 253, 261, 294, 316-317, 325, 327-329, 333-334, 340, 345, 352, 355, 364, 382, 384, 393-394, 397, 414, 418, 424, 426, 431, 440, 447, 449, 452, 455, 462, 467, 474, 482, 486, 492-493, 496, 500, 503, 509, 516, 519-520, 525, 532, 534, 539, 544, 550, 552, 555, 559, 564, 566, 573, 576, 586, 591, 594, 598, 605, 608, 610-611, 618, 626, 629, 635, 638, 644, 660-661, 666, 669
<223> n = any nucleotide

<400> 119
nntagatgca tgctcgagcg gcccgccagt gtgatggata tctgcagaat tcgcccttcc 60
tatgtatttc ttcctggcca acctgtcctt cttggagacc tggtacatct ctgngactgt 120
gcccaagtta ctgtttagtt tttggtctgc gaacaacagc atctctttca cactctgtat 180
gatacaactg tacttcttca ttgctcncat gngcacagaa tgcgtgcttc tggccgccat 240
ggcctatgac cgntatgtgg ncatctggcg cccactccac tacccaacca taantgagcc 300
atgggctcct gctccnncct cgctntnnna tanngaaccn acagngtagc gncanctccc 360

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tgtncgagaa tctacttcat cntnctgcct tannttntgt gggcccaatg tgcntaanca 420
cttngntctg nggacatttn ctccagnant tnaantctct tnctgcnaca aganactgtt 480
cnttancttg annatnttcn ggnacattnt tcctanggnn ttggnacgag cntntctanc 540
accngcactn cncantaant gctncngttc tantcngtgc cattcntgtg nctncccntt 600
tcatngcntn ncctcccncg aaagcnaant aagtnggngt cttnactttc gccccccacn 660
ncatcncant ggcc                                                   674
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<210> 120
<211> 643
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 359, 373, 439, 463, 506, 537, 564, 584, 594, 604, 610, 620, 633-634, 636
<223> n = any nucleotide

<400> 120

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ggccctctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc 60
ttcctatgta tttttcctg ttatttggag acctggagag cctcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctggtg gcgctgtcct gggtgctgac caccttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtng 360
atatttatca tgngagggct cattcttgtc atcccattcc tactcatcct tgggtcctat 420
gcgagaattg tctcctccnt cctcaaaggc cccttcttct aangggtatc tgcaaggcct 480
tctctacttg gtggctcccc ccctgnctgt ggtgtcactg ttcctattgg aaaccgntat 540
tgggactcta cttatgctca tcangctaat agttttactc ttangggaca ctgncaatgg 600
cctntgaagn taccccctggn gtggaccccc atnntngaac ccc                  643
```

<210> 121
<211> 657
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 429, 447, 453, 484, 510, 519, 542, 544, 546, 549, 552, 561, 581, 587, 600-601, 613, 618, 620-621, 623, 632, 643, 655-656

<223> n = any nucleotide

<400> 121

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ggccctctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc 60
ttccaatgta ctttttcctg ttatttggag acctggagag cttcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctggtg gcgctgtcct gggtgctgac caccttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgcat cccattccta ctcatccttg ggtcctatgc 420
aagaattgnc tccttccatc tcaaggnccc ttnttctaaa gggtatctgc aaggccttct 480
ctanttgtgg ctcccaccct gtcttgtggn tggcactgnt tctaatggga accggtaatt 540
gnancnctna cnttatgctc natcaactta aatagtttct nactttnaaa gggaccactn 600
ntcattggct tanggatngn ncnttggttt cntggaaatc ccnatcattc ttacnng    657
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<210> 122
<211> 622

<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 9, 536, 543, 587, 609, 616, 619, 621-622
<223> n = any nucleotide

<400> 122
atgaccctna gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc 60
cttccaatgt atttgttcct gtccaacctg tcctttttgg atattggctt tatctctaca 120
ataattccca atatgctaga tcatattagc tcaggaatta agctgatttc ttatggggag 180
tgtctgacac aactctattt ctctggccta tttgcagatc tggacaacaa ctttctcctg 240
gctgtgttgg cccttgaccg ctatgtggcc atcagccatc ctctccatta tgccctaacc 300
atgaactccc aacgctgtgt cctgttggtg gctgtgtcat gggtgatcac tattttacat 360
gccctagtgc ataccctcct agtgaccagg ctttccttct gtggtccaaa tattatccct 420
cacttcttct gtgatctggc ccactcctg aagctggcct gctccagtac ttgtgtcaat 480
gatctggtgc tcatccttgt ggcaggaaca ctgctgaatg cgccctttgc tgcatnctta 540
tgncctactt ttacattgca ttggccatcc tgagaattga ttccccnagg ggtatgcaaa 600
gggcccttnt ccagcntcnc nn 622

<210> 123
<211> 610
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 4, 445, 568-569, 580, 587, 600, 607, 610
<223> n = any nucleotide

<400> 123
gcgncgcagt gtgatggata tctgcagaat tcgcccttcc aatgtatttg tttctgttat 60
ttggagacct ggagagcttc ctccttgtgg ccatggccta tgaccgctat gtggccatct 120
gcttcccccct gcactacacc gccatcatga gccccatgct ctgtctcgcc ctggtggcgc 180
tgtcctgggt gctgaccacc ttccatgcca tgttacacac tttactcatg gccaggttgt 240
gtttttgtgc agacaatgtg atccccccact ttttctgtga tatgtctgct ctgctgaagc 300
tggccttctc tgacactcga gttaatgaat gggtgatatt tatcatggga gggctcattc 360
ttgtcatccc attcctactc atccttgggt cctatgcaag aattgtctcc tccatcctca 420
aggtcccttc ttctaagggt atctngcaag gccttctcta cttgcggctc cacctgcctg 480
tggtgtcact gttctatgga accgttattg gtctctactt atgctcatca gccaataagt 540
tttactctaa aaggacactt gtcatggnnt atgatgtacn ctgtggngac ccccatgctn 600
aaccccnttn 610

<210> 124
<211> 660
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 469, 477, 482, 484, 493, 500, 509, 524, 527, 530, 536, 542, 549, 553-555, 561, 571, 580, 581, 583, 591, 597, 602, 609, 617-619, 624-625, 627, 636, 638, 642, 645-646

<223> n = any nucleotide

<400> 124
ccttgggccc tctagatgca tgctcgagcg gccgccagtg tgatggatat ctgcagaatt 60

cgcccttctt tattcctgag tgaatatatg agggggttgg cactgctgtt aagagtggac 120
aggaaaatgg aaactagacg aacgtgacaa atccacgtgg atccagaaaa ataggaatca 180
ctgaatgcca aagggcaggt cacagaggag gaagaccagc actctgagca ggatggtcat 240
gtacagcctg gtcaagggca tcttccggga tccacaaagg atcctgacca gcagaaccgg 300
gctggacccg cagagaacca cacataaaaa aatcagccat gtgactgtga tgaaatctga 360
tgtttcacac caaacagaat caagcaccac tagacaggaa gccacagaac atccattcca 420
ggatgctctg cagcagggac agggcccaga gcaggacaca cgactgctna ccaggtnttt 480
tngngtggct gcnagctctn cttaggatng tccccaagga ttgnccnggn ccggtncttt 540
gnttgcttnt cgnnncccta nctatgcctt ngctcctgtn nangcttgac nattggncct 600
cncccacgng gcttaannnt ctcnngncgc atttanancg tnatnntact tcccttgtcg 660

<210> 125
<211> 632
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 2, 488, 505, 507, 586, 618
<223> n = any nucleotide

<400> 125
gnccctctag atgcatgctc gagcggccgc cagtgtgatg gatatctgca gaattcgccc 60
ttcctatgta cttcttcctg ttatttggag acctggagag cttcctcctt gtggccatgg 120
cctatgaccg ctatgtggcc atctgcttcc ccctgcacta caccgccatc atgagcccca 180
tgctctgtct cgccctggtg gcgctgtcct gggtgctgac caccttccat gccatgttac 240
acactttact catggccagg ttgtgttttt gtgcagacaa tgtgatcccc cactttttct 300
gtgatatgtc tgctctgctg aagctggcct tctctgacac tcgagttaat gaatgggtga 360
tatttatcat gggagggctc attcttgtca tcccattcct actcatcctt gggtcctatg 420
caagaattgt ctcctccatc ctcaaggtcc cttcttctaa gggtatctgc aaggccttct 480
ctacttgngg ctcccacctg tcttnggngg cactgttcta tgggaaccgg tattggtctc 540
tacttaatgc tcatcaagct aatagttcta ctctaaagga cactgncatg gctatgatgt 600
acactgtggt gacccccnat gctgacccat tc 632

<210> 126
<211> 642
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 331, 422, 435, 441, 462, 467-468, 471, 479, 500, 502, 513, 521, 537, 543-545, 549, 551, 563, 565-566, 569, 577, 582-583, 586, 594, 596, 611, 614, 620, 624, 631, 639-640

<223> n = any nucleotide

<400> 126
tctagatgca tgctcgagcg gccgcagtgt gatggatatc tgcagaattc gcccttccaa 60
tgtacttgtt cctggcagcc atggcttatg accgctgtct tgccatctgc tatcctttac 120
actacggagc catcatgagt agcctgctct cagcgcagct ggccctgggc tcctgggtgt 180
gtggtttcgt ggccattgca gtgcccacag ccctcatcag tggcctgtcc ttctgtggcc 240
cccgtgccat caaccacttc ttctgtgaca ttgcaccctg gattgccctg gcctgcacca 300
acacacaggc agtagagctt gtggcctttg ngattgctgg tgtggttatc ctgagttcat 360
gcctcatcac ctttgtctcc tatgtggaca tcatcagcac catccttcag gatccccttt 420
gncagtgccc ggagnaaaag ncttttccac gtgctcctcg cntctcnncg nggtgctcna 480
tttggtatgg gtccacaagn tnttctttca cgnccggatt ntccattcaa aagatgncct 540
tgnnntttna ncaaaagctt ggncnncgnc ctgaaanact gnngtngact tcangnttta 600
aaactccttt natntcactn ttangggaac naggggcgnn ac 642

<210> 127
<211> 688
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 1, 4, 54, 154, 269, 284, 294, 327, 339, 342, 344, 360, 362, 366, 372-373, 379, 382, 390, 393, 395, 397, 402, 408, 410-411, 417, 425, 428, 433, 435, 442, 446-448, 456, 461, 468, 473, 476, 479, 485, 487, 489, 508-509, 514-515, 526, 532-533, 535, 537, 539, 547, 550-551, 553, 555, 559, 572, 578, 582, 587, 595, 597, 602-603, 609-613, 617, 619, 621, 630, 634, 636, 640, 650, 652, 660, 679, 681, 683-684
<223> n = any nucleotide

<400> 127
ntgngccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcangaattc 60
gcccttccca tgtatttatt ccttagcctg ttggattccc agctgcacag ctggattgtg 120
ttacacaact caccttcttc aagaatgtgg aaanctataa tttttttttct gtgacccatc 180
tcaacttctc aaccttgcct gttctgacag catcatcaat aacatattat gtattttaga 240
tatccctata tttggttttc ttcccattnc agggatcctt ttgncttacc atanaattgt 300
cctcctccat tccaagaatt ccattgncag acgggacgna tnangccttc tctacctgtn 360
cntctnaccc gnnagtcgnt tntttatctn tgnantnccc tngggcgncn nccctgncct 420
cagcnttngt cancnttctc cncacnnntt cgtcgntgtt ncccagtnct gtnctnctnc 480
tctcntncnc tttctgcctc ccctccanng tctnncttc tcagcncccct tnngncncnt 540
gccagcnccn nangntccnc ccctctccct cntgtctnct cnctcctntt cttcntntcc 600
tnnctcatnn nnncgcncnc ncgctctccn cccntntctn tacgactccn gncgtctctn 660
cgcctacgac ctccctgtnc ncnnccgg 688

<210> 128
<211> 619
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 10, 46, 60, 322, 365-366, 464, 472, 475, 482, 493, 498, 498, 504, 517, 535, 543, 547, 556, 564, 584, 590, 600, 602, 610
<223> n = any nucleotide

<400> 128
gcgtgctgcn agcggggcgg cagagtgagc ggatatctgc agaatncgcc cttccgatgn 60
atttctttct aagcaactta tctttcattg acatctgcta ctcttctgct gtggctccca 120
atatgctcac tgacttcttc tgggagcaga agaccatatc atttgtgggc tgtgctgctc 180
agtttttttt ctttgtcggc atgggtctgt ctgagtgcct cctcctgact gctatggcat 240
acgaccgata tgcagccatc tccagccccc ttctctaccc cactatcatg acccagggcc 300
tctgtacacg catggtggtt gnggcatatg ttggtggctt cctgagctcc ctgatccagg 360
ccagnnccat atttaggctt cacttttgcg gacccaacat catcaaccac ttcttctgcg 420
acctccacca gtcctggctc tgtcttgctc tgacaccttc cttnagtcaa gncgncgaat 480
tntcccgtgg tgntcacntg tcgngaggaa acatcgnttt cctccaaccc cttantctcc 540
cangggntac catagngtct gcgngtccct gaagaatcct tttngccaan cggcgaatn 600
gnaagccctn ccaccgccc 619

<210> 129
<211> 697
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 17, 223, 238, 260, 304, 310, 315, 317, 322, 325, 327, 329, 341, 345-347, 350, 351, 356, 361, 369, 373-374, 378, 386, 391, 394, 396, 403, 414, 416, 426, 447-448, 456, 459, 461-462, 469, 473, 475, 477, 482, 488, 493-495, 504, 508, 511, 515, 518, 523, 527, 532-533, 537, 543, 548, 555, 558, 561, 570-571, 578, 580, 587-588, 592, 598-599, 601-602, 606, 608, 613, 619, 622-623, 634-635, 645, 648, 656, 658, 661, 665, 674-675, 682, 685, 687, 694-695
<223> n = any nucleotide

<400> 129
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gcggcgcagt gtgatgntat ctgacgaatt cgcccttccg atgtatttat ttctaagcaa 60
cttatctttc attgacatct gctactcttc tgctgtggct cccaatatgc tcactgactt 120
cttctgggag cagaagacca tatcatttgt gggctgtgct gctcagtttt ttttctttgt 180
cggcatgggt ctgtctgagt gcctcctcct gactgctatg gcntacgacc gatatgcngc 240
catctccagc cccccttctcn accccactat catgacccag ggcctctgta cacgcatgga 300
ggtngcgccn tatgntngtt gnctncntng agctccctga nccannnctn ntcacntatt 360
ntaggctcna ccnntcgngc tcccgntcca ncancnaacc ccnttcgttc ctgnanactt 420
ctccancacg ttcctggctt ttctgcnntc gcctcncgnc nnccttatnc ttnangntca 480
cncctganct gcnnnttctt ccangccngc ncgcncancc cgntctntct gnngaancct 540
ttnccatnct gctcnatnct nctctcatcn nttcctantn ctctccnnct cncgctcnnt 600
nncttncnct ctnaacctnt cnnatcctca cctnngatat cctcncgntc tttcgncntc 660
nttcnctgtc cganntcctc anacncntcc ctanncg 697
```

<210> 130
<211> 625
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 473, 502, 524, 547, 550, 567, 572, 590, 596, 614-615, 619, 623
<223> n = any nucleotide

<400> 130
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ctctagatgc atgctcgagc ggccgccagt gtgatggata tctgcagaat tcgcccttcc 60
tatgtattta ttccttagcc acttggccct cactgacatc tccttttcat ctgtcactgt 120
ccctaagatg ctgatgaaca tgcagactca gcacctagcc gtcttttaca agggatgcat 180
ttcacagaca tatttttca tatttttgc tgacttagac agtttcctta tcacttcaat 240
ggcatataac aggtatgtgg ccatctgaca tcctctacat tatgccacca tcatgactca 300
gagccagtgt gtcatgctgg tggctgggtc ctgggtcatc gcttgtgcgt gtgctctttt 360
gcgtaccctc ctcctggccc agctttcctt ctgtgctgac cacatcatcc ctcactactt 420
ctgtgacctt ggtgccctgc tcaagttggc ctgctcagac acctccctca atnagttagc 480
aatctttaca ggagcattga cnggcattat gcttccattc ctgngcatcc tgggttctta 540
tggcanatn tgggggtcac cattctncag anttccttta ccagggcatn tgcaangcct 600
tggccacttg tggnncccnc tcncg 625
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<210> 131
<211> 657
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 344,419, 443, 464, 486, 521, 524, 535, 537-538,545, 552, 564, 567, 572, 584, 586, 588, 601, 604, 608-609, 611-612, 616, 618, 620, 622, 626, 629-630, 633, 638-639, 643, 645, 655
<223> n = any nucleotide

<400> 131
ttggcctcta gatgcatgct cgagcgccgc cagtgtgatg gatatctgca gaattcgccc 60
ttgatacatg attgggttgc ggaaggaata aatcatcggg ttgcggaagg aataaataca 120
tcgggttgcg gaaggaataa atacatcggg ttgcggaagg aataaataca tcgggttgcg 180
gaaggaataa atcatcgggt tgcggaagga ataaatacat cgggttgcgg aaggaataaa 240
tacatcgggt tgcgtaagga ataaatcatt gggttgcgta aggaataaat cattgggttg 300
cgtaaggaat aaatcattgg gttgcgtaag gaataaatca ttgngttgcg taaggaataa 360
atctttgtgc tggtaccgat ctatcatggg gttacgaaag ggaagaaata cattggaang 420
ggcgaattcc agcacactgc cgnccgctac tagtgggatc cganctcggt accaagcttt 480
gatgcntagc ttgagtattt taacgccgcc aacctaaaat ngcnttggcc ttacncnntg 540
gaccnagctt gncttccttg cgtnaanttt cnttattcct cctntntntc ttctcccccc 600
ncanaatnnt nncccngntn ancacncann ttntatannc ctngngctcc cctantc 657

<210> 132
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 7, 27, 34, 39, 481, 484, 489, 493, 502, 520, 566, 614, 623-624
<223> n = any nucleotide

<400> 132
tggcccncta gatgcatgct cgagcgncgc cagngtgang gatatctgca gaattcgccc 60
ttcctatgta tttattcctt aatgtcctct cgcttcttga tatttgttac tcttctgtgg 120
tcacacctaa gctcttggtc aacttcctgg tctctgacaa gtccatctct tttgagggct 180
gtgtggtcca gctcgccttc tttgtagtgc atgtgacagc tgagagcttc ctgctggcct 240
ccatggccta tgaccgcttc ctatccatct gtcaacccct ccattatggt tctatcatga 300
ccagggggac ctgtctccag ctggtagctg tgtcctatgc atttggtgga gccaactccg 360
ctatccagac tggaaatgtc tttgccctgc ctttctgtgg gcccaaccag ctaacacact 420
actactgtga cataccaccc cttctccacc tggcttgtgc caacacagcc acagcaagag 480
nggncctcna tgnctttict gntctggcac ccttctggcn gctgcaggca ttctcacctc 540
taccggcttg ggcttggggg ccaatnggga ggatgcgcct caagaacagg gagggagaaa 600
ggactcccca cttntgcctc ccnn 624

<210> 133
<211> 590
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 161, 185, 190, 221, 278, 303, 320, 337, 348, 360, 371, 387-388, 390, 393, 395, 402, 407, 409, 413-414, 423, 437, 449, 455, 459, 461, 464, 466-467, 468, 471, 475, 482, 484, 487, 489, 491, 493-495, 499, 500, 503-504, 510, 515, 519-520, 528, 538, 540, 541, 543, 546, 548, 555-556, 558, 563, 566, 568, 572, 575, 584-586, 588
<223> n = any nucleotide

<400> 133
ggagttgata tgaacgggtt aagtgaagga gtgcccactg catagaagag accaaagaac 60
ttgcccctcc cttgggcata cggatttttg ggctggaggt agacagcaat gactgagctg 120
cagaagaggg tgaccacagt gagatgggag gagcaggtcc naaaggcctt tctccatgct 180
gtggnagagn taattctcag cactgcctgg gcagtcggct ncataagagg caaggatgag 240
gctgagaggc acaaccacga agatgacact ggacacangc caactgtatc cattgtagga 300
ggnatctcca caggagagtn gaatcagaga tgggacnttc acattaanaa gttatttatn 360
tgctggcggg nacagatgcc caagcgnnan ggngntatgg tnctggncna ttnnttcgtc 420

canacccatt atctcangcc acatgtatnt cagcntttna ntcncnntnt nagtntagtc 480
tngntgntnt ncnnnattnn ccnntctttn tcccntcann tatcattntc attccttncn 540
ncncanantt atggnncncc cgnacncnct cngtnactcc cctnnngncg 590

<210> 134
<211> 655
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 2-3, 5-11, 17485, 506, 512, 514, 518, 525, 543, 578, 590-592, 602, 609, 612, 616, 637, 646

<223> n = any nucleotide

<400> 134
gnntnnnnnn ntgttancct cgtccctcta gatgcatgct cgagcggccg ccagtgtgat 60
ggatatctgc agaattcgcc cttccgatgt atttatttct acacagacac agtgacaatc 120
tgatctctct tgcttttccc cacacactgc aacctctgcc tccacattca agtgattctc 180
ctgcctcagc ctcttgagta gctggaatta cagatgtgag ccaccatgcc tggcctgtcc 240
agatgttttt gaaacaaccc ccaccagcac tggagggagt caagggaaga caagccaggc 300
atctgagctc ctctgtctct gcctttcctt ctcactgtcc ccagggtaac ccgtcaccac 360
ccccatcacg aaccccttca tctacacatt acgtaacaag ggcgaattcc agcacactgg 420
cggccgttac tagtggatcc gagctcggta ccaagcttga tgcatagctt gagtattcta 480
acgcntcacc taaatagctt ggcgtnatca tngncccnag cttgntttct gtgtgaaatt 540
tgntatccgc tcacaattcc cacacaacat acgagccnga agcataagn nntaaagcct 600
gnggtgccna angagngagc taactcacaa ttaattncgt tggctnactt gcccc 655

<210> 135
<211> 639
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 4, 449, 480, 499, 510, 519, 524-525, 536, 543, 547, 550-551, 557-558, 564, 574, 581, 602, 615, 518, 621, 623, 627, 636, 639
<223> n = any nucleotide

<400> 135
ttgngccctc tagatgcatg ctcgagcggc cgccagtgtg atggatatct gcagaattcg 60
cccttcctat gtacttgttt ctaagcaacc tctccttcct ggagatttgg tataccacag 120
cagcagtgcc caaagcaccg gccatcctac tggggagaag tcagaccata tcatttacaa 180
gctgtctttt gcagatgtac tttgttttct cattaggctg cacagagtac ttcctcctgg 240
cagccatggc ttatgaccgc tgtcttgcca tctgctatcc tttacactac ggagccatca 300
tgagtagcct gctctcagcg cagctggccc tgggctcctg ggtggtgtgg tttcgtggcc 360
attgcagtgc ccacagccct catcagtggc ctgtccttct gtggttcccg tgccatcaaa 420
cacttcttct gtgacattgc accctggant gccctggcct gcaccaacac cacaggcagn 480
aagagcttgt ggcctttgng aatcgcctgn tggggctanc cttnngtcat gccctnatca 540
ccntttntcn nctatgnngt acantcatta agcnccaatc nctcatggga tccccttttg 600
cnagtggccc ggcgngcnaa ngncctnctc cccgtnccn 639

<210> 136
<211> 654
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 3, 108, 186, 216, 221, 252, 322, 329, 339, 344, 346, 350, 370, 376, 379, 385, 388, 391, 398-400, 404, 409, 418, 422, 428-429, 433, 437, 455-456, 462, 465, 474-476, 493, 496, 498, 503, 506, 515, 521, 527, 538, 540, 542, 548, 554, 561, 563, 565, 586, 595, 598, 612, 628, 639, 646

<223> n = any nucleotide

<400> 136
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cttccgatgt atttgtttct agccaacctg tcattaactg atgcttgntt cacttctgcc 120
tccatcccca aaatgctggc caacattcat acccagagtc agatcatctc gtattctggg 180
tgtctngcac agctatattt cctccttatg tttggnggcc ntgacaactg cctgctggct 240
gtgatgccat angaccgtta tgtggccatt tgccaaccac cccattacag cacatctatg 300
agtccccagc tctgtgcact antgctgcnc gtgtgctgng tgcnanccan ttgtctgcct 360
gctgcacatn ctgttnccnc ccccncgngg nctctttnnn ccgnacccnc cctacaantc 420
cntatcannt tcngctnccc tttcttctcc ccccnnttct tnccnccttc ctcnnnccta 480
ctttcttctc tcnccntnct canatnatca gtccnacctc nccttcnttt cttcactnan 540
tnctctcnct cccnctcacc ngntngtcta gtctgccgtc gccccntcgc tatcnctncc 600
cccctctccg cntcccctga tcgtcctngt ctaccctcnc catctnatcc ctcc       654
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<210> 137
<211> 658
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 334, 346, 350, 352, 357, 360, 369, 376-379, 389, 394, 397, 400, 401-402, 411, 414, 421, 435, 438, 447-449, 460, 466-467, 474, 476, 480, 486, 500, 504, 510, 512-513, 515, 517, 521, 525, 528, 543, 551, 554-555, 557, 559, 569-570, 572-573, 585, 587, 591, 593-594, 600-601, 606-607, 612, 615, 617, 621, 623, 628-629, 631, 633, 636-637, 640, 655
<223> n = any nucleotide

<400> 137
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aatgtatttt tttctaagca acctctcctt cctggagatt tggtatacca cagcagcagt 120
gcccaaagca ctggccatcc cactggggag aagtcagacc atatcattta caagctgtct 180
tttgcagatg tactttgttt tctcattagg ctgcacagag tacttcctcc tggcagccat 240
ggcttatgac cgctgtcttg ccatctgcta tcctttacac tacggagcca tcatgagtag 300
cctgctctca gcgcagctgg ccctgggctc ctggncgtgn ggcttngtgn cnttgcngcn 360
ctcctagcnc tcatgnnnnc cttgccttnt gggnccntgn nnatcaccct nttnctctgt 420
nacacttgta cctcncgnct tgccctnnnc tgcttctaan tccctnngtt gtantncctn 480
gccttntctc cccttcgctn gttnatcttn anntncntgc ntctntgncc ctctccttcg 540
ttngaccccct ntanncncnc tcttcttcnn anntcccctc tatcncnccg ntnncctccn 600
ntgtcnnccg antangntac ntntcacnnt ntntcnnctn ctctcctaac tcttnccg   658
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<210> 138
<211> 670
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 342, 347, 358, 376, 383, 401, 403, 409, 448, 451, 455, 463, 470, 474, 478, 481-482, 484, 487, 489-490, 492, 499, 511, 514, 516, 518, 522, 525, 534,

536, 548, 556, 565, 577, 581, 585, 587, 589, 592, 598, 604, 607-609, 624-626,
628, 636, 639, 645, 651, 655, 660, 661-663, 667-668
<223> n = any nucleotide

<400> 138
ggccccctag atgcatgctc gagcgggcgc cagcgtgatg gatatctgca gaattcgccc 60
ttcccatgta tttgtttcta agcaacctct ccttcctgga gatttggtat accacagcag 120
cagtgcccaa agcactggcc atcctactgg ggagaagtca gaccatatca tttacaagct 180
gtcttttgca gatgtacttt gttttctcat taggctgcac agagtacttc ctcctggcag 240
ccatggctta tgaccgctgt cttgccatct gctatccttt acactacgga gccatcatga 300
gtagcctgct ctcagcgcag ctggccctgg gctcctgggt gngtggnttc gtggccantg 360
tagtgcccac agcccntatc agnggcctgt ccttttgtgg ncncccgtnc catcaacccc 420
ttctttctgt gacatttgcc cccctgcntt ncccntggcc ctnccccaan cacngcangg 480
nngnttncnn gnctcggcnc cccctttgac ntantncntt gntgngcgct tatncntgcg 540
tttaatgncc ttaatnaaac tctcnctctt catgttnttc ntttntntng gnaccaantc 600
ttcnaannna cccttttttc catnnncncg tctacntcnc tctcnccttc ntcgngtttn 660
nnngtcnncc 670

<210> 139
<211> 635
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 303, 314, 331, 339, 341, 360, 373, 379, 386, 395, 400, 406, 416, 419,
423, 433, 435, 452, 456, 463, 473, 480-481, 487, 490, 493, 499, 501, 504-505,
509, 511, 514, 517, 519, 522, 523, 534, 535, 543, 544, 554, 560, 563, 565,
567, 579, 584, 593, 596-597, 599, 605-608, 611-612, 619-620, 624, 632, 634
<223> n = any nucleotide

<400> 139
gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttccgatgt 60
atttttttct aagcaacctc tccttcctgg agatttggta taccacagca gcagtgccca 120
aagcactggc catcctactg gggagaagtc agaccatatc atttacaagc tgtcttttgc 180
agatgtactt tgttttctca ttaggctgca cagagtactt cctcttggca gccatggctt 240
atgaccgctg cttgccatct gctatccttt acactacgga gccatcatga gtagcctgct 300
ctnagcgcag ctgncctggg ctcctgggtg ngtggttcng ngccattcag cgcccacagn 360
cttcatcagt ggncttgtnc ttctgngccc ccgcncatcn aaccantttc ttctgngana 420
atngtacccc tgnanttgcc ctggccttgt anccancaca tangctcgta tgngcttctn 480
ntggccnccn tgnttcgcnt ngtnnccgng ntanccngnc tnnacgtcct ttcnnacact 540
ttnnctctat gttntcaacn tcncgngcta ttcgctcang atanccactc ttncanncnt 600
cggannnnta nnctttccnn accntctttc cntnc 635

<210> 140
<211> 709
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 357, 369, 379, 382, 414, 430, 441, 458, 462, 468, 474, 481, 486, 494,
505, 507-509, 514, 520, 533, 546, 551, 555-556, 563, 570, 574, 589, 600, 602,
606, 613, 615-616, 622-623, 628, 638, 644, 653, 669, 671, 677, 679, 680-681,
689, 691, 696-698
<223> n = any nucleotide

<400> 140
atgaccctct agatgcatgc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60

ccttcctatg tatttatttc taagcaacct ctccttcctg gagatttggg tataccacag 120
cagcagtgcc caaagcactg ggccatccta ctggggagaa gtcagaccat atcatttaca 180
agctgtcttt tgcagatgta ctttgttttc tcattaggct gcacagagta cttcctcctg 240
gcagccatgg cttatgaccg ctgtcttgcc atctgctatc ctttacacta cggagccatc 300
atgagtagcc tgctctcagc gcaagctggc ctgggctcct gggtgtgtgg tttcggnggc 360
cattgcagng cccacagcnc tnatcagtgg gctgtccttt ctgtgggccc ccgngcccat 420
tcaacccacn tttctttttg nggatattgg caaccccntg gnatttgncc cctnggccct 480
ngcacncaaa ccancaccag ggtcngnnna caanctttgn cgggcccctt ttntgaaatt 540
ggcctnggtg ngggnntaat tcnctttggn tttnaatgcc cttccaatna accttttttgn 600
cnttcntatg ggngnncccct tnnattcnag caccacancc ttangggaac ccnccttttt 660
gtcaagtgng nccggtnann naaaagccnt nttccnnntg ccccccccg 709

<210> 141
<211> 671
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 1, 18, 368, 374, 375, 386, 392, 404, 405, 414-415, 420-422, 445-446, 449-450, 452, 460, 467-468, 471, 484, 488, 490, 512, 514, 531, 536-537, 541-542, 549, 562, 568, 572, 574-575, 577, 585, 588, 592-593, 595, 599, 617, 619, 627, 636, 639, 647, 658-659, 661-662, 665-667, 669
<223> n = any nucleotide

<400> 141
ntgggccctg agatgcangc tcgagcggcc gccagtgtga tggatatctg cagaattcgc 60
ccttcccatg tatttttttc taagcaacct ctccttcctg gagatttggt ataccacagc 120
agcagtgccc aaagcactgg ccatcctact ggggagaagt cagaccatat catttacaag 180
ctgtcttttg cagatgtact ttgttttctc attaggctgc acagagtact tcctcctggc 240
agccatggct tatgatcgct gtcttgccat ctgctatcct ttacactacg gagccatcat 300
gagtagcctg ctctcagcgc agctggccct gggctcctgg gtctgtggtt tcgtggccat 360
tgaagtgncc acanngcctc atcagntggc cntgtccttc tgcnnccccc cgtnncattn 420
nncacttctt tcgtgacatt gccannctnn tnttgccctn gtccttnncc natcatccat 480
ggcngttngn gctgttggcc ctttcgctca cncngtctgc gcccattctc nctgtnncaa 540
nngcctccnt ctactctctg cnttctanct antnncncct ctttnctncc tnnantctnt 600
cctcgatctc ctttcangnc tccgctncac tgctcnctna acgtccnttt cttccctnnt 660
nntcnnntnc g 671

<210> 142
<211> 739
<212> DNA
<213> Homo sapiens

<220>

<221> variation
<222> 5-6, 23, 232, 235, 349, 353, 358, 374, 397, 400, 406, 423-424, 427, 431, 434, 436-437, 440, 445, 448, 450, 452, 467, 471, 477, 488-489, 497-498, 506, 510-512, 518-520, 525, 528, 547, 550, 557-558, 560, 562-563, 566, 569, 590-591, 604-605, 613, 619, 631, 638-639, 642, 646, 649-650, 654, 660-661, 664, 670, 677, 679, 687, 690, 692, 694-695, 701, 714, 716, 722, 725, 731, 739
<223> n = any nucleotide

<400> 142
gggcnncttt gggtatgcct tgnccccttag atgcatgctc gagcggccgc cagtgtgatg 60
gatatctgca gaattcgccc ttccaatgta cttatttcta gccaacctgt cattaactga 120
tgcctgtttc acttctgcct ccatccccaa aatgctggcc aacattcata cccagagtca 180
gatcatctcg tattctgggt gtcttgcaca gctatatttc ctccttatgt tnggnggcct 240

tgacaactgc ctgctggctg tgatggcata tgaccgctat gtggccatct gccaaccact 300
ccattacagc acatctatga gtccccagct ctgtgcacta atgctgtgng tgngctgngt 360
gctaaccaac tggnctgccc tgatgcacac actgttnctn atcccngcgc tttcttggtc 420
ccnntangcc nctncnntcn ttccnttntn tntctctacc tctcccntcg ngctctnccc 480
cttccccnnt cttcctnntg tactcnctan nnctgttnnn ccccntcntt ctcttcttcc 540
ttctctntcn ctttcgnncn tnnttnctnc tcttgtccct acctgtcccn ntcatacctt 600
ttcnnaatcg ctnctatcnc cgcctatagt ncaattcnnc tncctnctnn attncctacn 660
nccntcctcn ccatcantnc taacctnctn cntnntctct ntctctgtcc tcancntctc 720
gnccnatttc nttttcccn 739

<210> 143
<211> 611
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 497, 528, 536, 540, 543, 551, 557, 563, 565, 570, 582, 589, 600, 605
<223> n = any nucleotide

<400> 143
gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttgatagat 60
aattgggttc agcatggggg tcaccacagt gtacatcata gccatgacag tgtcctttag 120
agtagaacta ttagctgatg agcataagta gagaccaata acggttccat agaacagtga 180
caccacagac aggtgggagc cacaagtaga gaaggccttg cagataccct tagaagaagg 240
gaccttgagg atggaggaga caattcttgc ataggaccca aggatgagta ggaatgggat 300
gacaagaatg agccctccca tgataaatat cacccattca ttaactcgag tgtcagagaa 360
ggccagcttc agcagagcag acatatcaca gaaaaagtgg gggatcacat tgtctgcaca 420
aaaacacaac ctggccatga gtaaagtgtg taacatggca tggaaggtgg tcagcaccca 480
ggacagcgcc accaggncga gacagagcat ggggctcatg atggcggngt agtgcngggn 540
gangcagatg nccacantag tgntnatagn ccatggtcac angggaggna gctttcaggn 600
ctttnaataa c 611

<210> 144
<211> 641
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 242, 263, 289, 315, 353, 357, 360, 372, 376, 385, 392, 397, 407, 416, 420, 422, 425, 429, 431, 433, 439, 446-449, 454, 465-466, 471, 479, 485, 492, 499, 501, 512, 516, 524, 528-529, 532, 534, 539, 543, 545, 547, 549, 561, 563, 565, 572-573, 575, 578, 582, 584-586, 596, 602, 604, 613, 615, 617, 622, 627-628, 632, 636-637, 639
<223> n = any nucleotide

<400> 144
gcgtgctcga gcggccgcca gtgtgatgga tatctgcaga attcgccctt gttgcgcaaa 60
gagtacatga aggggttaag tgaaggagtg cccactgcat agaagagacc aaagaacttg 120
cccctcccctt gggcatacgg atttttgggc tggaggtaga cagcaatgac tgagctgtag 180
aagagggtga ccacagtgag atgggaggag caggtcccaa aggcctttct ccatgctgtg 240
gnagagttaa tcctcagcac tgnctgggca gtggctccat aagaggcang gatgaggctg 300
agaggcacaa ccacngaaga tgacactgta cacagccaac tgtattttat tgnaggnggn 360
atctccacag gngagnccaa tcagntgatg gntcccnccc atttcanaag tcactntatn 420
tnctnttgnc ngncacgang gtcctnnnng agcngttctt gtccnntctt nactatcgnt 480
taccntccct cntccctcnt nttttctttc cncctncctc ttcntttnnc cntntcccnt 540
gtncncntnt atcttcccta ntncntcttt tnntnctntt tngnnncctt cctctntctt 600
tncntccctc tcnancntat cncttgnncc cncccnntnc c 641

<210> 145
<211> 837
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 8-9, 12, 330, 350, 364, 367, 387, 390-391, 393-395, 398, 399-400, 403, 406, 409, 411, 413, 416, 428-429, 438, 449, 454, 464-465, 475, 481, 486, 488, 492, 500-501, 504, 506-507, 515, 523, 532, 538, 548, 556, 562, 565, 567, 573-575, 578, 582-583, 589, 592, 598, 599-600, 604, 608, 612, 629, 637-639, 643, 645, 647, 652, 663, 666, 668, 672, 679, 686-687, 689-690, 693, 699, 710, 715, 717, 719, 721-722, 724, 732-734, 748-751, 763-764, 772-773, 780, 783, 791, 811, 818, 828, 834, 836
<223> n = any nucleotide

<400> 145
ggttgccnnc gnttaggcat tgggccctct agatgcatgc tcgagcggcc gccagtgtga 60
tggatatctg cagaattcgc ccttccgatg tatttgtttc taagcaacct ctccttcctg 120
gagatttggt ataccacagc agcagtgccc aaagcactgg ccatcctact ggggagaagt 180
cagaccatat catttacaag ctgtcttttg cagatgtact ttgttttctc attaggctgc 240
acagagtact tcctcctggc agccatggct tatgaccgct gtcttgccat cctgctatcc 300
tttacactac ggagccatca tgagtagccn tgctctcagc tgcagctggn cctgggctcc 360
tggntgngct ggtttctcgc cctattnttn ncnnnacnnn ccntantcng ncnctnctct 420
ctttcttnnt tccctttncc tcactcatnc ctcnctctct tttnntgtcc tcttnataac 480
nttgtntntc gnttctcccn ntcntnnctt ctctnttgct tcnctctcct cntttcgnat 540
ccctttgntc tctacnctct tncgnantca ctnnnatntc tnntcacgng cntcctcnnn 600
gatnttcncc tncttactgc tactctctnc tatactnnnc ttntntncat anttcgtctg 660
ctnacnantc tntcactcnt tcccanncnn tcnctgtcnt ctgactctcn cctcntntnt 720
nntncctcac cnnntacatg gttccttnnn ntccatctcg tcnntctctc cnntatacgn 780
ttncatactc nctaacttct ctccatcatc ntcacctntc tttctttntc cctngnc 837

<210> 146
<211> 639
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 16, 340, 379, 394, 401, 425, 428, 433, 435, 437-438, 446, 457, 463-464, 487, 504-505, 508, 510-511, 517-518, 529, 542, 546-547, 549-550, 552-553, 555, 561, 567, 569, 573, 576, 582, 584-586, 590, 594, 597, 599-600, 604, 611, 618, 623, 631, 634, 636

<223> n = any nucleotide

<400> 146
gatgatgctc gagcgncgca gtgtgatgga tatctgcaga attcgccctt ccaatgtatt 60
tatttctagg caccactgac ttcttcctct tggccgtcat gtctctggat cgttacctgg 120
caatctgccg accactccgc tatgagaccc tgatgaatgg ccatgtctgt tcccaactag 180
tgctggcctc ctggctagct ggattcctct gggtcctttg ccccactgtc ctcatggcca 240
gcctgccttt ctgtggcccc aatggtattg accacttctt tcgtgacagt tggcccttgc 300
tcaggctttc ttgtggggac acccacctgc tgaaactggn ggctttcatg ctctctacgt 360
tggtggtact gggcccacng gctctgacct cagntttcta ngcccgcatt cttgccactg 420
ttctnagngc ccncnanngc ttgccngagc gaagcanaag atnnttttca cattgcgcac 480
tcggaantta aagggggtgg cgcnncancn nctgggnngc ttcattctnt ctttttactt 540
tnccanngnn tnntngctca ntccctntnc tcntcncaat cntnnnggcn ctcntgntnn 600
gtanactgcc nttaattnga ccnctttccc nacncncac 639

<210> 147
<211> 618
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 347, 411, 415, 418, 435, 441-442, 445, 451, 466, 482, 506, 508, 513, 515-516, 526-527, 531-532, 534, 536, 552, 561, 564, 571, 574, 581, 583, 586-588, 591-592, 616

<223> n = any nucleotide

<400> 147
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catagatgca tgctcgagcg gccgcagtgt gatggatatc tgcagaattc gcccttccga 60
tgtaagttct ttctaggcac cactgacttc ttcctcttgg ccgtcatgtc tctggatcgt 120
tacctggcaa tctgccgacc actccgctat gagaccctga tgaatggcca tgtctgttcc 180
caactagtgc tggcctcctg gctagctgga ttcctctggg tcctttgccc cactgtcctc 240
atggccagcc tgcctttctg tggccccaat ggtattgacc acttctttcg tgacagttgg 300
cccttgctca ggctttcttg tggggacacc cacctgctga aactggnggc tttcatgctc 360
tctacgttgg tgttactggg ctcactggct ctgacctcag nttcntangc ctgcattctt 420
gtcactgtct caggncccct nnagntgctg ngcgaaggaa agcgcntttc acttgcgcct 480
cnatcttaca ggggtggcat catctnangg ggngnntgca tccttnncta nntncncagg 540
tcccagctat antccaaagt nctnaaaaca ngancctcgg nangannnct nntattctac 600
ccttcttcgt aacctncc                                                618
```

<210> 148
<211> 633
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 2, 11, 33-34, 36, 38, 346, 352, 370, 406, 412, 414, 417, 420, 423-424, 427, 434, 437, 440, 449, 452-453, 474-475, 477, 486-487, 491, 496, 499-500, 505-506, 515, 517-518, 533, 535, 537, 540, 543, 547, 549, 556, 558, 563, 568, 570, 571, 575, 577, 580, 588, 590, 593-594, 598, 607, 612, 623, 626
<223> n = any nucleotide

<400> 148
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cntagatgca ngctcgagcg ggcgccagcg tgnngnanat ctgcagaatt cgcccttcca 60
atgtattttt tctcactaac ttgtctttcc tagatctctg cttcaccacc agttctatcc 120
cccagctgct tttcaatcta ggcagcccag gcaagactat cagccacacg ggctgtgcca 180
tccagctctt catgttcctg ggcctgggtg gcaagagtgt attctcttgg cagccgtggc 240
ctatgaccgc ttcattgcaa tctgcaagcc ccttcactat tctgtcatta tgcaccctca 300
gctgtgctgg aagttggtgt ctgtggcccg ggggtgttgg actccncagt tntctaggta 360
tgcctcctgn gactatgaag cttgtcacga tgcggaagat gtaagnttgc ancnttnccn 420
ttnntgngat gccngcntcn tataaaaanc annctgggcg ggtcacagtg cttnngnata 480
gcattnngtc nccttnatnn catcnnattt gcctngnngt ccctcgttcc cantntncan 540
tcnttcntng gcttancntt ctncaccngn ncttncntan ctactccntn ttnnttcntc 600
cttctanctc tncatctttc ttnccntcca tcc                             633
```

<210> 149
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 433, 456, 511, 513, 516, 533, 541, 543-544, 557-558, 561-562, 567, 573, 582, 597, 604, 606, 609, 617, 619
<223> n = any nucleotide

<400> 149
gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttgttccta 60
agactataca tgaatgggtt tagcatcggg ttgaaagaac tgtaaaatag aaaaaggacc 120
ttctgctgct cctcaggatg gcgggactta ggggccatgt acatgacgat ggcgctgcca 180
aagaagagtc ccactacgca gaggtgggag gagcaggtgg agaaggcctt tctgcggccc 240
tccccagact ggatcctcag gatggccgcc aggatgtgtg agtaggagac cagcaccagg 300
cagagtggtc ccaccaggat gaacatgcag gctgcaaaga tgaccacctg gttgagccag 360
gtatcagcac aggccagcct gaggacagac aggatttcac aagaagaagt ggttgatttc 420
acgaggccca canaaagggc agtcttagga tgaggntcac atggaccata gccaggaggg 480
agccacattg tcccaggaag ngntgnccag agtgatgcag acttttcagg tcntgatgat 540
ngnnttattc ggagagnntg nnagacnggt cancgttccc gntcgtagga caattancac 600
ccancnggng ccttcantna tgtc 624

<210> 150
<211> 611
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 449, 480, 506, 555, 578-579, 601, 608, 610-611
<223> n = any nucleotide

<400> 150
gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc cttccaatgt 60
atttatttct ctctgacctc tccttcttgg acctctgctt taccacaagt tgtgtccccc 120
agatgctggt caacctctgg ggcccaaaga agaccatcag cttcctggga tgctctgtcc 180
agctcttcat cttcctgtcc ctggggacca ctgagtgcat cctcctgaca gtgatggcct 240
ttgaccgata cgtggctgtc tgccagcccc tccactatgc caccatcatc cacccccgcc 300
tgtgctggca gctggcatct gtggcctggg ttatgagtct ggttcaatcg atagtccaga 360
catcatccac cctccacttg cccttctgtc cccaccagca gatagatgac tttttatgtg 420
aggtcccatc tctgattcga ctctcctgng gagatacctc ctacaatgaa atccagttgn 480
ctgtgtccag tgtcatcttt ggtggntgtg cctctcagcc tcatccttgc ctcttatgga 540
gccactgccc aggcnggggc tgaggattaa ctttgccnna gccatggaag aaaggtcttt 600
nggacctngn n 611

<210> 151
<211> 619
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 415, 417, 427, 516, 524, 536, 544-545, 558, 561, 575, 580, 582, 584, 590, 607, 610, 615
<223> n = any nucleotide

<400> 151
gatgcatgct cgagcggccg ccagtgtgat ggatatctgc agaattcgcc ctttctttat 60
ttcgaagagt atacactagt ggattgaaga gaaacaaata cataggaagg gcgaattcca 120
gcacactggc ggccgttact agtggatccg agctcggtac caagcttgat gcatagcttg 180
agtattctaa cgcgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttcctgtg 240
tgaaattgtt atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtaaa 300

gcctggggtg cctaatgagt gagctaactc acattaattg cgttgcgctc actgtccgct 360
ttccagtcgg gaaacctgtc gtgccagctg cattaatgaa tcggccaacg cgcgngnaga 420
ggccggnttg cgtattgggc gctcttccgc ttctcgctca ctgactcgct gcgctcggga 480
cgtccggctg cggcgagcgg tatcagctta ctcaanggcc gtantacggt tattcncagg 540
aatnnggggt taacgccngg naaagaacat tgtgngccan angncaagcn taatgcccag 600
gaaccgntan aacgntccc 619

<210> 152
<211> 959
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> 139, 203, 209, 211-213, 216, 221, 225, 234, 243, 245, 248, 253, 255, 261, 277-279, 287, 296, 302, 311, 318, 321, 344, 348, 350, 353, 376, 379, 381, 383, 395, 397, 402, 406-407, 414, 420, 429, 436, 438, 448, 450, 452, 463, 476, 481, 483, 496, 499, 502, 517, 520, 523, 527, 530, 535, 537, 539, 542, 549, 550, 558, 570, 571, 579, 580, 584, 587, 596, 605, 609, 634-635, 637-638, 640, 644, 648-649, 663, 665-666, 671, 675, 677, 681, 692, 699, 705, 715, 718, 721, 736, 745, 750, 758, 766, 778-779, 791, 793, 797, 811, 816, 821, 829, 831, 832, 837, 839, 840, 843, 846, 846, 851, 858, 883, 889, 892, 895, 897, 898, 917, 923, 928, 935, 945, 956
<223> n = any nucleotide

<400> 152
ctcgagcggc gcagtgtgat ggatatctgc agaattcgcc cttcctatgt attatttctc 60
cataatttat ctattgccga tatctgcttc tcttccatca cagcgcccaa ggttctggcg 120
gaccttctgt ctgaaagana gaccatctcc ttcaatcatt gctccactca gatgtttcta 180
ttccacctta ttggaggggc ggntgtatnt nnnccntgtt ncccnatgcg cctnctttc 240
ccntntcntt tcnantcttt ncgcctcctc tcatgcnnnc ccttccntct tattcntgtc 300
gnaatacgct ntctccgnct nctgtctgct catccttgct gttncgtntn canctcatcg 360
ctgtctgtcg tacctnttnc ntnctgtgtc tgcgngntca tncacnntct caancgtctn 420
ccctcactnc tctttncntg ctcttctntn cnccgtgtct tancttcttg ccctgntacg 480
ncncgccgct catatncgng tnctggtatc ccctctnatn ttnttcntcn cctcntntnc 540
cntctcacnn acttcctngt ctctctccan ncttcgacnn ctcnctnatc tccacnacgc 600
acttntctnt ctatatccgc tcttaccgct ctcnncnnan cacncttnnc tctgcatatc 660
agntnntctc ncacncncat nttcttccta cncttctcnc tgtcncacag atctntcnct 720
nctctgctct cgttgntccc cctgncactn cgcaatcnca catatncgtc tctcttcnnt 780
cgccacttat ntngcanctt tctctgcgtt nctctncgat ntccctccnc nntctcncnn 840
ctnatnatcg nttattcnaa tcatactccg tactgtttct gtnctcttnt cntgncnnct 900
agcttctctc tattcantct acnttctntt cgctntctat ccacnctctt cactcncct 959

<210> 153
<211> 375
<212> DNA
<213> Unknown (H38g1 nucleotide)

<220>
<223> Synthetic construct

<400> 153
ttggcctgtg ctgacacatc cttagcccag agggtgagct tccccgacgt tggcctcata 60
tctcttgtct gctttctgct aattctttta tcctacacta gaatcacaat atctatctta 120
agcattcgta caactgaggg ccgtcgccgt gccttctcca cctgcagtgc tcacctcatt 180
gccatcctct gtgcctatgg gcccatcatc actgtctacc tgcagcccac acccaacccc 240
atgctgggaa ccgtggtaca aattctcatg aatctggtag gaccaatgct gaaccctttg 300
atctatacct tgaggaataa ggaagtaaaa acagccctga aacaatatt gcacaggaca 360
ggccatgttc ctgag 375

<210> 154
<211> 965
<212> DNA
<213> Unknown (H38g2 nucleotide)

<220>
<223> Synthetic construct

<400> 154
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cacacagagc cacggaatct cacagatgtc tgagaattcc tcctcctggg actctcagag      60
gatccagaac tgcaaccggt cctcgctttg ctctccctgt ccctgtccat gtatctggtc     120
acggtgatga ggaacctgct cagcatcctg actgtcagct ctgtctctcc cctccacacc     180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcggccacg     240
gttcccacga tgattgtgga catgcagtcg catagcagag tcatccctca tgcgggctgc     300
ctgacgcaga tgtatttctt ggtctttttt gcatgtatag aaggcatgct cctgactgtg     360
atggcctatg actgctttgt agccatctgt cgccctctgc actacccagt catcgtgaat     420
cctcacctct gtgtcttctt cgttttggtg tcctttttc ttagcctgtt ggattcccag      480
ctgcacagtt gaattgtgtt acaattcaac atcatcaaga atgtggaaat ctctaatttt     540
gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatatcatt     600
ttcatatatt tcgatagtac tatgtttgct tttcttccca tttcagggat cctatggctt     660
actataaaat cgtcccctcc attctaagga tttcatcgtc agatgggaag tataaatcct     720
tctccacctg tgcctctcac ctagcagttg tttgctgatt tgatggaaca ggcattggca     780
tgtacctgac ttcagctgtg tcaccacccc ccaggaatgg tgtggtggcg tcagtgatgt     840
acgctgtggt cacccccatg ctgaaccttt tcatctatag cctgagaaac aggaacatac     900
aaagtgccct gcggaggctg cgcagcagaa cagtcgaatc tcatgatctg ttccatcgtt     960
tttct                                                                 965
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<210> 155
<211> 936
<212> DNA
<213> Unknown (H38g3 nucleotide)

<220>
<223> Synthetic construct

<400> 155
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atggatggag ataaccagag tgagaactca cagttccttc tcctggggat ctcagagagt      60
cctgagcagc agcggatcct gttttggatg ttcctgtcca tgtacctggt cacggtgctg     120
ggaaatgtgc tcatcatcct ggccatcagc tctgattccc acctgcacac ccccatgtac     180
ttcttcctgg ccaacctctc cttcactgac ctcttctttg tcaccaacac aatccccaag     240
atgctggtga acttccagtc ccagaacaaa gccatctcct atgcagggtg tctgacacag     300
ctctacttcc tggtctcctt ggtgaccctg gacaacctca tcctggccgt gatggcgtat     360
gatcgctatg tggccacctg ctgcccctc cactatgtca cagccatgag ccctgggctc      420
tgtgtcttgc tcctctcctt gtgttggggg ctgtctgttc tctatggcct cctcctcacc     480
ttcctcctga ccagggtgac cttctgtggg cctcgagaga tccactacct cttctgtgac     540
atgtacatcc tgctgtggct ggcatgttcc aacacccaca tcattcacac agcgttgatt     600
gccactggct gcttcatctt cctcaccccc ttagggttca tgaccacatc ctatgtacgt     660
attgtcagaa ccatccttca aatgccctcg gcctctaaga aatacaaaac cttctctacc     720
tgtgcctccc atttgggtgt ggtctccctc ttttatggga cgcttgctat ggtgtacctg     780
cagcccctcc atacctactc catgaaggac tcagtagcca cagtgatgta tgctgtgctg     840
acacctatga tgaacccttt catctacagg ctgaggaaca aagacatgca tggggctccg     900
ggaagagtcc tatggagacc ctttcagagg cctaaa                               936
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<210> 156
<211> 914
<212> DNA
<213> Unknown (H38g4 nucleotide)

<220>
<223> Synthetic construct

<400> 156
atgaggaatc acacattgct gaatgaattc attctacggg gaatacctca gacagaggga 60
ctggaggctg tactctgtgc tgtcttctca ttcatctacc tcttcaccct acttggaaat 120
ttactcatcc ttatagcgat tgtttcttca cactcctatg tatttcttct tgggacgcct 180
gtctactttt gacatattgt tcccatctgt aacatgtccc aagatgctat tgtatctctc 240
tggccagagc ccagtcattt cttttaaggg atgtgcttca cagctcttct tctatcagtt 300
gctgggttct gctgaaggct gcctctattc tgtgatgtct tatgatcgct ttgttgccat 360
acatcacaca ctgagatata tgctcatcat gaagcctgga gtctgtgtcg gcttggtcgt 420
ggtgccgggt tggtgggttg tcttcacgcc accattctga cctcctttac ctttcagttg 480
tcctactgtg gccccaatca ggtggactac ttcttctgtg acattcctgc tgttttaccc 540
ctggcttgta ctgacagtgc cctggcccag agggtgggtt ccataaatgt tggctttctg 600
gctttaacac ttttgatcag tgtctgtgtc tgctacacta gcattgggat tgccatcttg 660
agaatccgct catcagaggg caggcagaaa gccttctcca cctgcagtgc tcaccttgtt 720
gcaatcctct gtgcctatgg acctgtaatc atcatctatc tgaagtccac acccaacccc 780
ttgcttggtg ccaggtgcaa atattaaata atgttgtctc acccatgctg aactcgttaa 840
tctattcctt aaggaacaag gaagtgaaaa ggtccctgaa aagagtattc tgaaatgttt 900
tacttactgt ttgt 914

<210> 157
<211> 951
<212> DNA
<213> Unknown (H38g5 nucleotide)

<220>
<223> Synthetic construct

<400> 157
atgggaacag ataaccagac ttgggtgagt gaatttattc tcctcggcct gtccagtgac 60
tgggacactc gggtctccct gtttgtcctg ttcttggtca tgtatgtggt gaccgtgctg 120
gggaactgtc tcattgtcct tctgatcaga ctggacagcc gactccacac tcccatgtat 180
ttctttctca ccaacctctc ccttgtcgat gtctcctatg ccacaagtgt agtccctcag 240
ctgctggcac attttcttgc agaacataaa gccatcccat tccagagctg tgcagcccag 300
ttatttttct ccctggcctt gggtgggatt gagtttgttc tcctggcggt gatggcctat 360
gaccgctatg tggctgtgtg tgatgccctg cgatactcgg ccatcatgca tggagggctg 420
tgtgctaggt tggccatcac atcctgggtc agtggcttca tcagctctcc tgtgcagact 480
gctatcacct ttcagctgcc catgtgcaga aacaagttta ttgatcacat atcctgtgaa 540
ctcctagctg tggtcaggct ggcttgtgtg gacacctcct ccaatgaggt caccatcatg 600
gtgtctagca ttgttcttct gatgacaccc ttctgcctgg ttcttttgtc ctacatccag 660
atcatctcca ccatcctaaa gatccagtcc agagaaggaa gaaagaaagc tttccacacg 720
tgtgcctctc acctcacagt ggttgccctg tgctatggtg tggccatttt cacttacatc 780
cagccccact ccagtccctc tgtccttcag gagaagttgt tctctgtctt ttatgccatt 840
ttaacaccaa tgctgaaccc catgatttac agcctaagga ataaagaggt gaagggggcc 900
tggcagaaac tattatggaa attctctggg ttaacatcaa agctggcaac t 951

<210> 158
<211> 1025
<212> DNA
<213> Unknown (H38g6 nucleotide)

<220>
<223> Synthetic construct

<400> 158
gatacagacc cacagagtct aacagatgtc tctatattcc tcctcctcga actctcagag 60
gatccagaac tgcagccggt catcgctggg ctgttcctgt ccatgtgcct ggtcacggtg 120
ctggagaaac tgctcatcat catggcagtc agccctgact tccacctcca cacccccatg 180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcacctccac acggtcccca 240
agatgattgt ggacatccag tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagcgtgatg 360
gcctacgacc agtttgtagc catctgtcac cctcccatat cgttcagcca tcttgaaccc 420

gtgtttctgt ggcttccaag atttgttgtc cctgtttttt tttcttttt ttttttttc 480
ctcaggcttt tagactccca gctgcataac ttgattgcct tacaaatgac ctgcttcaag 540
gatgtggaaa tttctaatgt cttctgggaa ccttctcaac tcccccatct tgcatgttgt 600
gacaccttca ccaggaacat caacctgtat ttccctgctg ccgtattggg ttttcttccc 660
atctcgggga cgcttttctc ttactgtaaa attgtttcct ccattctgag ggtttcatca 720
tcaggtggga agtataaacc ttctccacct gtgggtctca cctgtctgct gtttgctgat 780
tttatggaac aggcgttgga gggtatctcg gttcagatgt gtcatcttcc ccgagaaaga 840
gtgcagtggc ctcagtgatg tatacggtgg tcacccccat gctgaacccc ttcatctaca 900
gcctgagaaa cagggatatg aaaagtgtcc tgcggcggcc gcacagcagc acggtctaat 960
ctcaatatct tcttatctgt tccattcctt ttgtagggtg ggttaaaaaa ggcagcaagg 1020
tcaaa 1025

<210> 159
<211> 936
<212> DNA
<213> Unknown (H38g7 nucleotide)

<220>
<223> Synthetic construct

<400> 159
atggtaaaag gaaatcattc cacggtgact gaatttaatc tcgctgggct aacagacaaa 60
ccagagctcc agctgcctct tttcctcctc ttcctgggaa tctatgtggt cacagtggtg 120
ggcaacctga gcatgatcac tctaataggg ttcagttctc acctgcacac ccccatgtac 180
catttcctca gcagtctgtc cttcattgat ctctgccagt cttctgtcat taccccaaaa 240
atgctggtga atttgtgtc agagaggaat attatctcct acccagcatg catgactcag 300
ctctacttct tccttgttct tgtcatatct gaatgtcaca tgttggctgc aatggcttat 360
gaccactaca ttgccatatg taacccactg ctttaccatg tcgccatgtc ttatcaggtc 420
tgctcctgga tggtagttga ggtgtatttt atgggcttta ttggtgctac gtgctcacac 480
agtctgcatg ctaagagtgc ttttctgtaa ggctgatgta atcaaccatt acttctgtga 540
tcttttccca ctactggagc tctcccgctc cagtatttct atcaatgaaa tagtagtttg 600
tgcttcagtg catttaatat ccttttccgc agcctcacca tccttagctc ttacatcttc 660
atcgttgcca gcatcctctg cattcgctcc actgagggca ggtccaaaac cttcagcact 720
tgcagctccc acatctcggc tgtttctgtt ttctttgggt ctgcagcatt catgtacctg 780
cagccatcat ccgtcagctc catggaccag ggagtgtct tctgtgtttt atgctactgt 840
tgtgcccatg ctgaaccccc aatctacagc ctgaggaata aagatgtcaa agttgcctta 900
attaagttcc ttgaaaaaag aagtttcctg tgaaag 936

<210> 160
<211> 985
<212> DNA
<213> Unknown (H38g8 nucleotide)

<220>
<223> Synthetic construct

<400> 160
atgggtcagg aaaataaaaa ccagacatgg gtgagtgagt tcattctgct ggggatttcc 60
agtgattggg gcattcaggt atccctcttc gccctgatcc tggccatgta tttggtgact 120
atttaggaa acaccctcat tcttcttctg atcagactgg acaacaggct tcataccccc 180
atgtacttct ccccttagtgt tctgtcattt gtggactttt gttatacaaa gagtattgtc 240
ccacaaatgc tgtcccactt gctctcagcc cgaaagtcca tcccattcta cagttgtgtg 300
ctccagctct atgtttctct ggcattgtgt gggtctgagt tcttcctgct gggggccatg 360
gcctatgacc gctacgtggc cgtgtgccac ccactgcact acacggtcat catgcatgga 420
gggctgtgcc tggggctggc ggccagccgc ctggtggctg gcttctcaaa ttccctgatg 480
gaaacaatta tcaccttcca gcttcctgtg tcacggtgtt atcaatcact ttgtctgtga 540
gaccttagca gtgctacagc tagcctgtgt ggatgtcccc ttcaacaagg tcatggtggc 600
catctcaggg tttctggtga tcttgcttcc ctgttccctg gttctattct cctatgcttg 660
catagttgcc accatttgt gcattcgttc tacccaggta cgctgcaaag cctttgggac 720
ctgtgcctct cacctcattg tggtttgcat gtgctttggg gctaccatct gcacctacct 780
ggggccacag ttggcctcct cagcagagga agagaagatg attgctctct tctatggagt 840

ggtgtcaccc atgttgaacc ccttgatcta cagcttgagg aataaggaag ttacggctgc 900
tgtccggaaa gttttagaaa gatgcagata aagggtcaag actctaagaa cctcttgtta 960
tctatcatca aaaccaaaaa ggaga 985

<210> 161
<211> 954
<212> DNA
<213> Unknown (H38g9 nucleotide)

<220>
<223> Synthetic construct

<400> 161
atggaccaaa gcaattatag ttctttacat ggttttattc tgcttggctt ctctaaccat 60
ccaaaaatgg agatgatcct gtcaggagtt gtcgccatct tctacttaat tacattggtg 120
ggtaacacag ccatcattct tgcatctctc ctggattccc agcttcatac accaatgtac 180
tttttcctca gaaatttatc tttcctagat ctatgtttca caaccagcat catccctcag 240
atgctggtca acttgtgggg acctgataag accatcagct atgtgggttg tatcatccaa 300
ctctatgttt acatgtggtt gggctcagtt gagtgccttc tcctggctgt tatgtcctat 360
gatcgtttta cagctatatg taagcccttg cattattttg tagtcatgaa cccacatcta 420
tgtctaaaga tgattatcat gatctggagt attagtttgg ccaattctgt agtattatgt 480
acactcactc tgaatttgcc cacatgtgga aacaacattc tggatcattt cttgtgtgag 540
ttgccagctc tggtcaagat agcttgtgta gacaccacaa cagttgaaat gtctgttttc 600
gctttaggca ttataattgt cctcacacct ctcatcctta ttcttatatc ctatggctac 660
attgccaaag ctgtgctgag aacgaagtca aaagcaagcc agcgaaaagc aatgaatacc 720
tgtggatctc atcttactgt agtgtctatg ttctatggaa ctattatcta catgtacctg 780
caaccaggta acagggcttc caaagaccag ggcaagttcc tcaccctctt ttacaccgtc 840
atcactccaa gtctcaaccc gctcatttac accttaagaa ataaggacat gaaggatgcc 900
ctgaagaaac tgatgagatt tcaccacaaa tctacaaaaa taaagaggaa ttgc 954

<210> 162
<211> 970
<212> DNA
<213> Unknown (H38g10 nucleotide)

<220>
<223> Synthetic construct

<400> 162
cacacagagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actttcagag 60
gatccagagc tgcagtcggt cctcgctttg ctgtccctgt ccctgtccac gtatctggcc 120
acggtgctga ggaacgtgct caacatcctg gctgtcagct ctgactcccc cctccacacc 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcggccacg 240
gttcccaaga tgattgtgga catgcagtcg tatagtagag tcatctctca tgagggctgc 300
ctcacacaga tgtctttctt ggtccttttt gcatgtatag aaggcatgat cctgactgtg 360
atggcctatg actgctttgt agccatctgt cgccctctgc attacccagt catcgtgaat 420
cctcacctct gtgtcttttt cgttttggtg tcctttttcc ttagcctgtt ggattcccag 480
ctgcacagtt gaattgtgtt acaattcaac atcatcaaga atgtggaaat ctctaatttt 540
gtctgtgacc cctctcaatt tctcaaactt gcctgttctg acagcgtcat caatagcata 600
ttcacgtatt tccatagtac tatgtttggt tttcttccca tttcagggat cctttttttct 660
taatttaaaa tcgtcacctt cattctctgg atttcatctt cagatgggaa gtataaagcc 720
ttctccacct gtgactctca cctagcagtt gtttgctgat tttatggaac aggcattggc 780
atgtacctga cttcagctgt gtcaccaccc ccaggaatgg tgtagtggcg tcaatgatgt 840
acgctgtggt cacccccatg ctgaaccttt tcatctacag cctgagaaac agggacatac 900
aaagtgccct gcggaggctg ctcagcagaa cagtcgaatc tcatgatctg ttccatcgtt 960
tttcttgtgt 970

<210> 163
<211> 933
<212> DNA
<213> Unknown (H38g11 nucleotide)

<220>
<223> Synthetic construct

<400> 163
atggagttgg agaaccagac acgagtcacc aagttcattc tggtgggatt ccctgggagc 60
ttgagtatgc gggcagccat gtttctgata ttccttgtgg cctatattct gacagtggct 120
gaaaacgtga tcatcatcct attggtgctg caaaatcggc cactgcacaa gcctatgtac 180
ttcttcctgg ccaacctgtc cttcttggag acctggtaca tctctgtgac tgtgcccaag 240
ttactgttta gtttttggtc tgtgaacaac agcatctctt tcacactctg tatgatacaa 300
ctgtacttct tcattgctct catgtgcaca gaatgtgtgc ttctggccgc catggcctat 360
gaccggtatg tggccatctg tcgcccactc cactacccaa ccataatgag ccatgggctc 420
tgcttccgcc tcgctcttgg ttcctgggcc attggctttg gcatctccct ggcgaagatc 480
tacttcatct cctgcctcag cttctgtggt cccaatgtca tcaaccactt cttctgtgac 540
atctctccag tacttaatct ctcctgcaca gacatgtcca taactgagtt ggtagacttt 600
atcctggcac tggtcatctt cctattccca ctctttatta ctgtcctgtc ctacggatgc 660
attctggcca ccatattatg catgcccaca ggaaagcaga aagcgttctc cacttgtgcc 720
tcccatcttg tggtggtcac cattttctat tcagccatta ttttcatgta tgctcgacct 780
cgagttatcc atgccttcaa catgaacaaa attatttcca tcttctatgc cattgtcact 840
ccttctctca accctttcat ttattgccta agaaaccgag aggtcaagga agctctgaag 900
aaactggcat attgccaggc cagcagatct gac 933

<210> 164
<211> 939
<212> DNA
<213> Unknown (H38g12 nucleotide)

<220>
<223> Synthetic construct

<400> 164
atggagcaag tcaataagac tgtggtgaga gagttcgtcg tcctcggctt ctcatccctg 60
gccaggctgc agcagctgct ctttgttatc ttcctgctcc tctacctgtt cactctgggc 120
accaatgcaa tcatcatttc caccattgtg ctggacagag cccttcatac tcccatgtac 180
ttcttccttg ccatcctttc ttgctctgag atttgctata cctttgtcat tgtacccaag 240
atgctggttg acctgctgtc ccagaagaag accatttctt tcctgggctg tgccatccaa 300
atgttttcct tcctcttctt tggctcctct cactccttcc tgctggcagc catgggctat 360
gatcgctata tggccatctg taacccactg cgctactcag tgctcatggg acatggggtg 420
tgtatgggac taatggctgc tgcctgtgcc tgtggcttca ctgtctccct ggtcaccacc 480
tccctagtat ttcatctgcc cttccactcc tccaaccagc tccatcactt cttctgtgac 540
atctcccctg tccttaaact ggcatctcag cactccggct tcagtcagct ggtcatattc 600
atgcttggtg tatttgcctt ggtcattcct ctgctactta tcctagtctc ctacatccgc 660
atcatctctg ccattctaaa aatcccttcc tccgttggaa gatacaagac cttctccacc 720
tgtgcctccc atctcattgt ggtaactgtt cactacagtt gtgcctcttt catctactta 780
aggcccaaga ctaattacac ttcaagccaa gacaccctaa tatctgtgtc atacaccatc 840
cttaccccat tgttcaatcc aatgatttat agtctgagaa ataaggaatt caaatcagcc 900
ctacgaagaa caatcggcca aactttctat cctcttagt 939

<210> 165
<211> 954
<212> DNA
<213> Unknown (H38g13 nucleotide)

<220>
<223> Synthetic construct

<400> 165
tgtgtcgatt cttctttaaa atgagaaatc acacagtgat gtctgagttt gttactgtga 60
atggctgagg gctggagatt gtatttcatt atcctgatta tatcttataa attttgtacc 120
cttttgggaa atgttatatt caggaccctt gtttgttcct tgggatttca cacatcatgc 180
atgtattttt ttccttgaaa aatatcattg tgattggcat gagtttgtct tcaattattg 240

ctttaccttc aacgcagaaa tgagccatca atgttcaggg tgctgctgtc catgttttct 300
cctttccttg cctgtactgc cccgagatct tcttgcattc actgacacag tgccacccctt 360
ttattgccat tggatatcca ctgcaaggta tgcacaccat tacacacaaa ctgtatatac 420
tgctcaccac agggccctgg agaggctgct agctacatgt caatctcctg atgctatatt 480
aggcagctac cctaatcctg tgccaacgaa gttatggctg tcattcccat cacattcctg 540
aagtcaaact gtgacctatg caagcatata ctaagcccta tgccggtctc tctctctgtc 600
tctctcttag tctctctctc tctttctctc tcttttccat tatttccata tcttatatct 660
gcaatgaaat tgacatacca aaaattatct ctgcagacag tgtgcatgga gctttctcaa 720
cctgccttgc tcacctcttt gctttctcaa cctgcattgc tcaacctgca gtctgcaact 780
ctttgtggcc atggacagaa gctcagaccg agagctctct gcgattctgt gattcagaga 840
ccgaacttgt gtgtgaccat ctccttgaac tccttgattt ctagcctgag aaatgaaagt 900
gtgaaacaag cttcacataa aatatttaaa gaacaaactt tattcatgaa aata 954

<210> 166
<211> 998
<212> DNA
<213> Unknown (H38g14 nucleotide)

<220>
<223> Synthetic construct

<400> 166
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc ccccatgtac 180
tttctactgg ccagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcat tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagttatg tggccctatt aagcccctcc actatctgac cattatgagc ccaagaatgt 420
gcctttcatt tctggctgtt gcctggaccc ttggtgtcag tcactccctg ttccaactgg 480
catttcttgt taatttaccc ttctgtggcc ctaatgtgtt ggacagcttc tactgtgacc 540
ttcctcagct tctcagacta gcctgtaccg acacctacag attgcagttc atggtcactg 600
ttaacagtgg gtttatctgt gtgggtactt tcttcatact tctaatctcc tacatcttca 660
tcctgtttac tgtttggaaa cattcctcag gtggttcatc caaggccctt tccactcttt 720
cagctcacag cacagcggtc cttttgttct ttggtccacc catgtttgtg tatacatggc 780
cacaccctaa ttcacagatg gacaagtttc tggctatttt tgatgcagtt ctcactcctt 840
ttctgaatcc agttgtctat acattcagga ataaggagat gaaggcagca ataaagagag 900
tatgcaaaca gctagtgatt tacaagaaga tctcataaat gatacaataa gcccttctcg 960
ttaaacatga tatggcttta tgtttctttc tttgatat 998

<210> 167
<211> 966
<212> DNA
<213> Unknown (H38g15 nucleotide)

<220>
<223> Synthetic construct

<400> 167
cacacagggc cacggaatct cacagatgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccact cctcactttg ctgtccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactcccc cctccacacc 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctaggccaca 240
gtccccaaga tgattgtgga catgcagtcg catagcagag tcatctctca tgcggtctgc 300
ctgatacaga tgtctttatt agtccttttt gcatgtatag aaggcatgct cctgactgtg 360
atggcctatg actgctttgt agccatctgt tgccctctgc actacccagt catcgtgaat 420
cctcacctct gtgtcttctt cgttttggtg tcctttctcc ttagcttgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcacc atcatcaaga atgtggaaat ctctaattct 540
gtctgtgacc cctctcatct tctcaaactt gcttgttctg acagcgtcat caatagcata 600
ttcatatatt tcgatagtac tatgtttggt tttcttccca tttcagggat cctatggtct 660
tactataaaa tcgtcccctc cattctcagg atttcatcgt cagatgggaa gtataaagcc 720

ttctccacct gtgcctctca cctagcagtt gtttgctgat tttatggaac aggcattggc 780
atgtacctga cttcagctgt gtcaccaccc cccaggaatg gtgtggtggc gtcagtgatg 840
tacgctgtgg tcacccccat gctgaacctt ttcatctaca gcctgagaaa cagggacata 900
caaagtgccc tgcggaggct acgcagcaga acagtcgaat ctcatgatct gttccatcgt 960
ttttct 966

<210> 168
<211> 837
<212> DNA
<213> Unknown (H38g16 nucleotide)

<220>
<223> Synthetic construct

<400> 168
atgtacctgg ccactgtcct ggggaacctg ctcatcatcc tggccataag catagactcc 60
cgcctgcaca cccccatgta cttcttcctc agcaacatgt cctttgtgga caactgcttc 120
tccaccaccg tccccaagat gctggccaat cacatactca ggactcaaac catctccttc 180
tctggctgtc tcatgcagat gtattttatc agtgagcttg ctgacatgga caatttcctc 240
ctggctgtga tggcctatga ccgctttgtc gccgtgtgcc gccccttaca ttacacagca 300
aagatgaccc atcagctctg tgccctgctg gtcactggat catgggtggt tgccaactcg 360
aatgctctgc tgcacaccct gctgatggct cgactctcat tctgtgcaga caacaccatc 420
ccccacatct tctgcgatgt gactcccctc ctgaaactct cctgttcaga cacacacctc 480
agtgaagtga tgattcttac tgaggctgcc ctagtcacga tcaccccatt tctttgcctc 540
ctggcttcct atatgcacat cacctgcgtt gtcctgaggg tcccatccac aaagggaaga 600
tggaaagcct tctccacctg tggctcccac ctggctgtgg ttctcctctt ctatggcacc 660
atcatgtctc catatttcag aacttcatcc tcccactcag ctcagagaga tatagcagct 720
gctgtgaggt tcacagtggt gactcccgtg atgaatcctt tgatctacag cctgaggaac 780
aaggacataa aggggctct tgtaaaagtg gttgctgtga aattttttc tgttcaa 837

<210> 169
<211> 770
<212> DNA
<213> Unknown (H38g17 nucleotide)

<220>
<223> Synthetic construct

<400> 169
ttcattctct ggggtttctt tgaccacccc tagccggaaa tgtttctctt cataatgggg 60
cttgttgctt atctctgcat actggtggac aacatctcaa ttattgtggt acccagggga 120
tattttaggg gagcaccaaa tgcatcattt tagctgtgac gtctttggat ccttacattg 180
ccatctgcaa acacttgagg tacccagcta tcatgcatca gcaactctgt gtcctcctag 240
tggccatggc atggctaagc agtttggcca actctacttc agtcatccct tgccgtccag 300
ctgccactag gcggtaacaa ggtggacgac tttctgtgtg aggtctcagc gatgatcaag 360
atatcacgtt ttgacaccac attcaatgta tctatgctct ccattgtgag gatattttag 420
tccctcgttc tctaatcaat tatctttgct tactgtggat tcattgtagc tactgtgctg 480
aggattcagt cctcaggggg aaagaaggag gtcttcaaca catgtggttc tcatattgta 540
tctctcctct atgggcctgt aattagcatg tatgtacagc cctctgccaa ctcccaggac 600
aaaaacaaat tcatgtccct gttctacagt ttggtgactc ctatgcttaa cccttttatc 660
tacactttga gcaacaggga cataaaaggg gcaatgagga ggcttcttgt ctttttgtat 720
caccaggaag agaacaaaag taattatttt tatactccac attcttcata 770

<210> 170
<211> 1003
<212> DNA
<213> Unknown (H38g18 nucleotide)

<220>
<223> Synthetic construct

<400> 170
tctacagacc cacagaatgt aacggatgtc tctcgattcc tcctcctcaa actctcagag 60
gatccagaac tgcagccggt ccttgctggg ctgttcctgt ccatgtgcct ggtcacggtg 120
ctggggaacc tgctcatcat cctggccgtc agccctgact cccacctcca cacttccatg 180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcccctcccc cacggtcccc 240
aagatggttg tggacatcca atctcacagc agtcatctcc tatgcaggct gcctgactca 300
gatgtctctc tttgccattt ttggaggcat ggaagagaca catgctcctg aatgtgatgg 360
cctatgtccg gtttgtagcc atctgtcacc ctctatatca ttcagccatc atgaacccgt 420
gtttctgtgg cttcttactt ttgttgtctt tttttttct cggtctttta gacgcccagc 480
tgcacaacat gattgcctta caaatgacct gcttcaagga tgtggaaatt cctaatttct 540
tctgtgatcc ttctcaactc ccccatcttg catgttgtga caccttcacc aataacatca 600
tcatgtattt ccctgctgcc gtatttggtt tccttcccat ctcggggacc cttttctctt 660
actctaaaat tgtttcctcc attctgaggg tttcgtcatc aggtgggaag tataaacctt 720
ctccacctgt gggtctcacc tgtcagtttt ttgctgattt tatggaacag gcattggagg 780
gtacctcagt tcagatgtgt catcttccct gagaaaggct gcagtggcct cactgatgta 840
caagatggtc acccccatgc tgaacccctc catctacagc ctgagaaaca gggatattaa 900
aagtgtcctg cggcagccgc acggcagcac ggtctaatct caagaccttc ttatctgttc 960
cattcctttt gtagtgtggg ttaaaaaagg cagcaaggtc aaa 1003

<210> 171
<211> 998
<212> DNA
<213> Unknown (H38g19 nucleotide)

<220>
<223> Synthetic construct

<400> 171
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtatt ttctgtgacc actgaccctc acttacactc ccccatgtac 180
tttctactgg ccagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcat tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagttatg tggccctatt aagcccctcc actatctgac cattatgagc ccaagaatgt 420
gcctttcatt tctggctgtt gcctggaccc ttggtgtcag tcactccctg ttccaactgg 480
catttcttgt taatttaccc ttctgtggcc ctaatgtgtt ggacagcttc tactgtgacc 540
ttcctcggct tctcagacta gcctgtaccg acacctacag attgcagttc atggtcactg 600
ttaacagtgg gtttatctgt gtgggtactt tcttcatact tgtaatctcc tacatcttca 660
tcctgtttac tgtttggaaa cattcctcag gtggttcatc caaggccctt tccactcttt 720
cagctcacag cacagcggtc cttttgttct ttggtccacc catgtttgtg tatacatggc 780
cacaccctaa ttcacagatg gacaagtttc tggctatttt tgatgcagtt ctcactcctt 840
ttctgaatcc agttgtctat acattcagga ataaggagat gaaggcagca ataaagagag 900
tatgcaaaca gctagtgatt tacaagaaga tctcataaat gatacaataa gcccttcttg 960
ttaaacatga tatggcttta tgtttctttc tttgatat 998

<210> 172
<211> 1018
<212> DNA
<213> Unknown (H38g20 nucleotide)

<220>
<223> Synthetic construct

<400> 172
gatacagacc cacagagtct aacagatgtc tctatattcc tcctcctcga actctcagag 60
gatccagaac tgcagccggt cctcgctggg ctgttcctgt ccatgtgcct ggtcacggtg 120
ctcaggaacc tgctcatcat cctggccatc agccctgact cccacctcca cacccccatg 180
tacttcttcc tctccaacct gtcctttcct gacagtcgtt tcacctccac cacagtcccc 240
aagatgattg tggacatcca gtctcacagc agagtcatct cctatgcagg ctgcctgact 300
cagatgtctc tctttgccat tttggagac atggaagaga gacatgttcc tgagtgtggt 360

ggcctatgac cggtttgtag ccatctgtca ccctttatat cgttcagcca tcttaaaccc 420
ctgtttctgt ggcttcctag attcgttgtc cttgtttttt ttttttttt tttctcagtc 480
ttttagactc ccagctgcac aacttgattg ccttacaaat gacctgcttc aaggatgtgg 540
aaattcctaa tttcttctgg gaaccttctc aactcccca tcttgcatgt tgtgacatct 600
tcaccaggaa catcaacctg tatttccctg ctgccatatt tggttttctt cccatctcgg 660
ggacgctttt ctcttactat aaaattgttt ccttcattct gagggtttca tcatcaggtg 720
ggaagtataa accttctccg cctgtgggtc tcatctgtca gttgtttact gagtttatgg 780
aacaggcttt ggagggtacc tcagttcaga tgtgtcatct tccccgagaa agggtgcagt 840
ggcctcagtg atgtacacgg tggtcacccc catgctgaac cccttcatct acagcctgag 900
aaacggggat attaaaagtg tcctgcggca gccgcacggc agcacagtct aatctcaata 960
tcttcttatc tgttccattc cttttgtagt gtgggttaaa aaaggcagca aggtcaaa 1018

<210> 173
<211> 942
<212> DNA
<213> Unknown (H38g21 nucleotide)

<220>
<223> Synthetic construct

<400> 173
atggagacaa gaaaatactc tgccatgact gaattctttc tggtggggct ttcccaatat 60
ccagagctcc agctttttct gttcctgctc tgcctcatca tgtacatgat aatcctcctg 120
ggaaatagcc tcctcattat catcaccatc ttggattctc gcctccatac tcccatgtat 180
ttctttcttg gaaacctctc attcttggac atctgttaca catcctcatc cattcctcca 240
atgcttatta tatttatgtc tgagagaaaa tccatctcct tcattggctg tgctctgcag 300
atggttgtgt cccttggctt gggctccact gagtgtgtcc tcctggctgt gatggcctat 360
gaccactatg tggccatctg caacccactg aggtactcca tcatcatgaa cggagtgctg 420
tatgtgcaaa tggctgcatg gtcctggatc ataggctgtc tgacctccct attgcaaaca 480
gttctgacaa tgatgttgcc tttctgtggg aataatgtca ttgatcatat tacctgtgaa 540
attttggccc ttctaaaact tgtttgttca gatatcacca tcaatgtgct tatcatgaca 600
gtgacaaata ttgtttcact ggtgattctt ctactgttaa ttttcatctc ctatgtgttt 660
attctctctt ccatcctgag aattaattgt gctgagggaa gaaagaaagc cttctctacc 720
tgttcagcgc actcgattgt ggtcatctta ttctacggtt cagccctttt tatgtacatg 780
aaacccaagt caaagaacac taatacatct gatgagatta ttgggctgtc ttatggagtg 840
gtaagcccaa tgttaaatcc catcatctat agcctcagga ataaagaggt caaagaggct 900
gtaaagaaag tcctgagcag acatctgcat ttattgaaaa tg 942

<210> 174
<211> 958
<212> DNA
<213> Unknown (H38g22 nucleotide)

<220>
<223> Synthetic construct

<400> 174
atgaagaata aaaggaatgt gactgaattc gttttaacag gtcttacaca gaaccctaaa 60
atggagaaag tcatgtttgc agtatttttg gttctttaca tgataacact ttcaggcaac 120
ctgctccttg tggttacaat taccaccagc caggctctta gctcccccat gtacttcttc 180
ctgagccacc tttctttgat agacacagtt tattcttctt cttcagctcc taagttgatt 240
gtcgattccc ttcatgagaa gaaaatcatc tcctttaatg ggtgtatggc tcaagcctat 300
gaagaacaca tttttggtgc tactgagatc atcctgctga cagtgatggc ctgtgacaac 360
tatgtggcca tctgcaaacc tctgcactac acaaccatca tgagccacag cctgtgcatt 420
ctcctagtgg tagtggcctg gataggagga tttctccatg caaatattca gattctattt 480
acagtatggc tgcccttctg tggccccaat gtcatagacc acttcatgtg tgacttgtgc 540
cctttgttaa aacttgtttg cctggacact catacccttg gtctctttgt tgctgccaac 600
agtgggttca tctgcttatt aaacttcctt ctctaggtgg tatcctatgt gatcatcttg 660
agatgtttaa agaactatat cttggagggg aggggtaaag ccctctccac ctgtatttct 720
cacatcataa tagttgtctt attctttgtg ccttgtatat ttgtgtatct gcacccagtg 780
acaaactctg cccattgata aagctgctgc tgtattttat actatggtgg tcccaatgtt 840

aaatcctttg atctacacac tcagaaatgc tgaggtaaaa agtgcaataa ggaagctttg 900
gagaaaaaaa gttatttcag ataatgacta aataagacca ttgagcactc atcataga 958

<210> 175
<211> 933
<212> DNA
<213> Unknown (H38g23 nucleotide)

<220>
<223> Synthetic construct

<400> 175
atgaggaatt tctcggtggt gtccgaattc atcctgctgg gcatccctca cacggagggt 60
ctggagacta ttctgttggt cctgtttttg tccttctaca tcttcaccct tatggggaac 120
ctgctcatct tgctggctat tgtctcctct gctcggcttc acacgcccat gtacttcttc 180
ctgtgcaagc tgtctgtttt tgacctattt ttcccttctg tgagttcccc taagatgctg 240
tgctatcttt cagggaacag ccgagccatc tcctatgcag gctgtgcatc ccagctcttc 300
ttctaccatt tcctgggctg cactgagtgt ttcctgtaca cggtgatggc ctacgaccgc 360
tttgttgcca tttgtcaccc tctacgctac accataatca tgagccacag agcatgtatc 420
atcctagcca tggggacctc attctttggc tgcattcagg ccacctttct gaccactctc 480
accttccaat tgccttactg tgtccccaat gaggtggact attatttctg tgatatccca 540
gtcatgctga agctggcttg tgcagatacc tcagccctgg agatggtggg gttcatcagt 600
gtgggcctca tgcccctcag ctgtttcctt ctcatcctca cctcctacag tggcatcgtc 660
ttctccatct tgtagatctg ctctgccgag ggccgacgcc gtgccttctc cacctgcagc 720
gcccacctca ccgccatcct gctttttac atgccagtgg tcctcattta cctgaggcct 780
acccacagcc tgtggttgga tgcaactgtt caaattctga ataacctggt cacccccatg 840
ctgaacccct taatctacag tctcaggaat aaggaggtga aattatcact aaggaaggtc 900
ttatatcagc tgggcttcct tcctgagcag ttg 933

<210> 176
<211> 906
<212> DNA
<213> Unknown (H38g24 nucleotide)

<220>
<223> Synthetic construct

<400> 176
atggacatac cacaaaatat cacagaattt ttcatgctgg ggctctcaca gaactcagag 60
gtacagagag ttctctttgt ggtctttttg ctgatctatg tggtcacggt ttgtggcaac 120
atgctcattg tggtcactat cacctccagc cccacgctgg cttcccctgt gtatttttc 180
ctggccaacc tatcctttat tgacaccttt tattcttctt ctatggctcc taaactcatt 240
gctgactcat tgtatgaggg gagaaccatc tcttatgagt gctgcatggc tcagctcttt 300
ggagctcatt ttttgggagg tgttgagatc attctgctca cagtgatggc ttatgaccgc 360
tatgtggcca tctgtaagcc cctgcacaat actaccatca tgaccaggca tctctgtgcc 420
atgcttgtag ggtggcttg gcttgggggc ttcctgcatt cattggttca gctcctcctg 480
gtcctttggt tgcccttctg tgggcccaat gtgatcaatc actttgcctg tgacttgtac 540
cctttgctgg aagttgcctg caccaatacg tatgtcattg gtctgctggt ggttgccaac 600
agtggtttaa tctgcctgtt gaacttcctc atgctggctg cctcctacat tgtcatcctg 660
tactccttga ggtcccacag tgcagatggg agatgcaaag ccctctccac ctgtggagcc 720
cacttcattg ttgttgcctt gttctttgtg ccctgtatat ttacttatgt gcatccattt 780
tctactttac ctatagacaa aaatatggca ttattttatg gtattctgac acctatgttg 840
aatccactca tttataccct gagaaatgaa gaggtaaaaa atgccatgag aaagctcttt 900
acatgg 906

<210> 177
<211> 798
<212> DNA
<213> Unknown (H38g25 nucleotide)

<220>

<223> Synthetic construct

<400> 177
atgatcacac tgattgggct cagttctcac ctgcacacac ctatgtacta tttcctcagc 60
agtctgtcct tcattgactt ctgccattcc actgtcatta cccctaagat gctggtgaac 120
tttgcgacag agaagaacat catctcctac cctgaatgca tggctcagct ctatttattc 180
agtatttttg ctattgcaga gtgtcacatg ttggctgcaa tggcgtatga ctgttatgtt 240
gccatctgca gcccccttgct gtacaatgtc atcatgtcct atcaccactg cttctggctc 300
acagtgggag tttacatttt aggcatcctt ggatctacaa ttcataccag ttttatgttg 360
agactctttt tgtgcaagac taatgtgatt aaccattatt tttgtgatct tttccctctc 420
ttggggctct cctgctccag cacctacatc aatgaattac tggttctggt cttgagtgca 480
tttaacatcc tgatgcctgc cttaaccatc cttgcttctt acatctttat cattgccagc 540
atcctccgca ttcactccac tgagggcagg tccaaagcct tcagcacttg cagctcccac 600
atcttggctg ttgctgtttt ctttggatct gcagcattca tgtacctgca gccatcatct 660
gtcagctcca tggaccagag gaaagtgtcg tctgtgtttt atactactat tgtgcccatg 720
ctgaaccccc tgatctacag cctgaggaat aaagatgtca aacttgccgt gaagaaaatt 780
ctgcatcaga cagcatgt 798

<210> 178
<211> 954
<212> DNA
<213> Unknown (H38g26 nucleotide)

<220>
<223> Synthetic construct

<400> 178
atgggaaact ctaatcagtc tttcatgaca gaatttgtcc tgctggggct ttctggctac 60
ccagagctag aggccattta ctttgtgctg gtcctatgta tgtatttggt gatcctgttg 120
ggaaatggag tcatcatcat tgtgagtgtt tatgacaccc acttgcacac ccccatgtac 180
tttttcctca gtaacttatc attcttggac atctgctaca ctagttcatc tattccacta 240
tttctcagca gcttcttaac gtcaaagaaa actatttcct tctctgggtg tggagtgcaa 300
atgtttctct cttttgctat gggagcaaca gagtgtgtcc ttctaagtat gatggcgttt 360
gactgctatg tggccatctg taaccctcta tgataccta tcatcatgag caaggcttca 420
tacatgtcca tggctgcggg gtcctggatt ggaggaggca tcaattctgt gttgcaaacc 480
tcccttgcaa tgcggcttcc tttctgtgga gataacgtca ttaatcattt tacttgtgaa 540
atcttggctg tcttaaaatt ggcctgtgct aatatctcca taaatattat tagcatggtt 600
gttgctagta tgatttttct tgtagggcca gtactttta tttttgttac atatgttttt 660
attctctcca ccatcctgag aattccttct gcagaaggaa ggcacaaagc ctcctccacc 720
tgctctgccc acctaacagt ggtgattata ttctacagaa ccatcctttt catgtatgca 780
aagcccaagg ctaaagactc ttctggtgca gacaaagaac aagtcacaga caaaatcatc 840
tccctgttct atggagtggt gacacctatg cttaatcctc ttatctatag tttgaggaac 900
aaagacgtga aggcagctgt gaagagtata ctgtgacaaa aatgcttctt ggaa 954

<210> 179
<211> 984
<212> DNA
<213> Unknown (H38g27 nucleotide)

<220>
<223> Synthetic construct

<400> 179
aaatctatga aaaagatgaa caatgtaata gaattcatac tgctgggcct cactcacaat 60
ccagaactgc agaaattctt gtttgttatg tttttaatca cctacttgat cacattggca 120
ggtaacctgt tcatctcagt catcatcttc atcagcccag ccctgggttc ccccatgtac 180
tcttttccgt cctatttgtt cattatagac attttctgct cttcttccat agcccctaaa 240
atgaactttg acttgatctc tgaaaagaac accatatcct tcaatggctg catgactcag 300
ctcttcacag aacatttctt tacagaacat ttctttgagg cagctgagat catcttatta 360
agtgtcatgg cctatgacca ctatgtggcc atccgtaagc ccttgcacta tgcaaccatc 420
atgagccaac ctatgtgtgg attcctgatg gtggtggctg ggattctggg atttgtgcat 480

ggagggatcc agactttgtt catagcccag ttaccattct gtggccccaa tgtcatcaac 540
cactttatgt gtgatttagt acctcttctg gagctggcct gcacagacac tcacaccttg 600
gggcctctga ttgctgccaa cagtgggtca ctgtgtttcc tcatttttc catgctggtt 660
gcttcctatg tcatcatcct gtgcttcctg aggactcata gctctgaagg gcgtcgcaaa 720
gctctgtcta gttgtgcctc tcatatcttc attgtcatct tattctttgt cccttttca 780
tacctgtatc taagacctaa cctccttccc cactgacaaa gctgtgactg tgttttgcac 840
cctatttaca cctatgttga accctttaat ctacaccctc aaaaataaag aagtgaaaaa 900
tgtcattaag aagctctgga agcaaataat gacaactgat gataaataag tcttgtgaca 960
caaacattta ggcaagaata tctg 984

<210> 180
<211> 954
<212> DNA
<213> Unknown (H38g28 nucleotide)

<220>
<223> Synthetic construct

<400> 180
atggaatggg aaaaccacac cattctggtg gaatttttc tgaagggact ttctggtcac 60
ccaagacttg agttactctt ttttgtgctc atcttcataa tgtatgtggt catccttctg 120
gggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180
ttctttctgg ggaacctctc cttcttggac atctgctaca ccaccacctc tattccctcc 240
acgctagtga gcttcctttc agaaagaaag accatttccc tttctggctg tgcagtgcag 300
atgttcctcg gcttggccat ggggacaaca gagtgtgtgc ttctgggcat gatggccttt 360
gaccgctatg tggctatctg caaccctctg agatatccca tcatcatgag taaggatgcc 420
tatgtaccca tggcagctgg gtcctggatc ataggagctg tcaattctgc agtacaatca 480
gtgtttgtgg tacaattgcc tttctgcagg aataacatca tcaatcattt cacctgtgaa 540
attctggctg tcatgaaact ggcctgtgct gacatctcag acaatgagtt catcatgctt 600
gtggccacaa cattgttcat attgacacct ttgttattaa tcattgtctc ttacacgtta 660
atcattgtga gcatcttcaa aattagctct tccgagggga gaagcaaagc ttcctctacc 720
tgttcagccc atctgactgt ggtcataata ttctatggga ccatcctctt catgtacatg 780
aagcccaagt ctaaagagac acttaattcg gatgacttgg atgctaccga caaaattata 840
tccatgttct atggggtgat gactcccatg atgaatcctt taatctacag tcttagaaac 900
aaggatgtga aagaggcagt aaaacaccta ctgaacagaa ggttctttag caag 954

<210> 181
<211> 792
<212> DNA
<213> Unknown (H38g29 nucleotide)

<220>
<223> Synthetic construct

<400> 181
atggtagaca acctaatcat tgtggtgaca atcaccacca gcccagccct ggactccccc 60
gtgtattttt ttctgtcttt cttttccttc atagatggct gctcctcttc taccatggcc 120
cccaaaatga tatttgactt actcactgaa aagaaaacta tttccttcag tgggtgcatg 180
acccagctct ttgtagaaca tttctttggg ggagttgaga tcattctgct cgtggtgatg 240
gcctatgact gctatgtggc catctgcaag cccctgtact acctgatcac aatgaacagg 300
caggtatgtg gcctcctggt ggccatggca tgggtcgggg gatttcttca cgctctgatt 360
caaatgcttt taatagtctg gctgcccttc tgtggcccca atgtcattga ccatttcatc 420
tgtgaccttt tccctctgct aaaactctcc tgcactgaca ctcacgtctt tggactcttt 480
gttgccgcca acagtgggct gatgtgtatg ctcatttttt ctattcttat tacctcttac 540
gtcctaatcc tctgctcaca gcggaaggct ctctctacct gcgccttcca tatcactgta 600
gtcgtcctat tctttgttcc ctgtatattg gtgtaccttc gacccatgat caccttccct 660
attgataaag ctgtgtctgt gttttatact gtggtaacac ccatgttaaa ccctttaatc 720
tacaccctca gaaacacaga ggtgaaaaat gccatgaagc agctctggag ccaaataatc 780
tggggtaaca at 792

<210> 182

<211> 936
<212> DNA
<213> Unknown (H38g30 nucleotide)

<220>
<223> Synthetic construct

<400> 182
atgtggccca atattactgc agccccttttt ttgctgactg gttttccagg gctggaggca 60
gctcatcact ggatctccat ccccttcttt gctgtttatg tgtgcatcct tctgggcaat 120
ggcatgctcc tctacctcat caagcatgac cacagtcttc atgagcccat gtactacttc 180
ctcaccatgc tggcaggcac agacctcatg gtgacattga ccacgatgcc tactgtaatg 240
ggcatcctat gggtgaatca cagggagatt agcagtgtgg gctgcttcct acaggcttac 300
tttattcact ccctttctgt tgtggaatca ggttccctcc tggcaatggc atatgatcgt 360
ttcattgcca tccgcaatcc tttgagatat gcttccattt tcaccaatac tagagtcata 420
gcgttaggag tgggagtgtt tctaaggggt tttgtatcca tcctgcctgt aattttgcgt 480
ctttttttcat tttcatattg caaatctcat gttatcacac gtgctttctg cctccaccaa 540
gaaatcatga gactggcttg tgctgacata actttcaata gactttaccc tgtaattttg 600
atctctttaa caatcttcct agactctctg atcatcctct tctcctatat tctaattctt 660
aatactgtca taggcattgc ctctggtgaa gagagagcca aagccctcaa tacctgtatc 720
tcccacatta gttgtgttct tatcttctat gttacggtga tgggtttgac attcatttac 780
agatttggga agaatgtgcc agaggttgtc cacattatca tgagttacat ctacttcctc 840
tttcctcctt taatgaaccc tgtcatctac agcatcaaaa ccaagcaaat acaatatggc 900
attatccgcc ttttatctaa acataggttt agtagg 936

<210> 183
<211> 854
<212> DNA
<213> Unknown (H38g31 nucleotide)

<220>
<223> Synthetic construct

<400> 183
gacacagagc cacagaatct cacagctgtc tcagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcccat cctcgctggg ctcttcctgt ccatgtacct ggtcacggtg 120
ctggggaacc tgctcattat cctggccatc ggctctgact cccacctcga cacccccatg 180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcacctcggc cacggtcccc 240
aagatgattg aggagatgca atcgcatagc agagtcatct accatgggga ctgctgacac 300
agatgtcttt ctttgtcctt tttgcatgta aggatgacat gatcctgact gtgatggcct 360
atgactggtt tgtggccatc tgtcaccccc tgaactaccc aggcatcatg aatcctcacc 420
tctgtgtctt attagttttg gtgccttttt tccttagcct gttggattcc cagctgcaca 480
atttgattgt gttacaattc atctgcttca agaatgtgga aatctctaat tttttctgtg 540
acccgtttca acgtctcaac cttgcctgtt ctgacagtga catcaataac atatacatat 600
atttagatag tactatattt ggttttcttc gcatttcagg gatccttttg tgttactata 660
cagttgtctt ccccattcta agaattccat cctcagatgg gaattataaa gccttctcca 720
cctgaggctc tcgcctggca gttgtttgct tattttatgg aacaggcatt ggcgtgtacc 780
tgacttccgc tgtgtcatca tcccccagga atgatgtggt ggcgtcagta atgtacgctg 840
tggtggtcac cccc 854

<210> 184
<211> 951
<212> DNA
<213> Unknown (H38g32 nucleotide)

<220>
<223> Synthetic construct

<400> 184
atgggtgaga ttaaccagac acttgtgtca gaatttcttc ttctgggtct ttctggatac 60
ccaaagattg agattgttta ctttgctctc attctagtta tgtacctagt gattctaatt 120

ggcaatggtg ttctaatcat agccagcatc tttgattctc attttcacac accaatgtac 180
ttcttcctgg gcaacctctc tttcctggat atctgctata catcctcctc tgttccctca 240
acattggtga gcttaatctc aaagaaaaga aacatttcct tctctggatg tgcagtgcag 300
atgttctttg ggtttgcaat ggggtcaaca gaatgtctgc ttcttggcat gatggcattt 360
gatcgttatg tggccatctg caacccactg agatacccca tcatcctgag caaggtggcg 420
tatgtattga tggcttctgt gtcctggctg tccggtggaa taaattcagc tgtgcaaaca 480
ttacttgcca tgagactgcc tttctgtggg aataatatta tcaatcattt cgcatgtgaa 540
atattagctg tcctcaagct ggcctgtgct gatatatccc tcaatattat caccatggtg 600
atatcaaata tggccttcct ggttcttcca ctgatggtca tttttttctc ctatatgttc 660
atcctctaca ccatcttgca aatgaattca gccacaggaa gacgcaaggc attttccacg 720
tgctcagctc acctgactgt ggtgatcata ttttacggta ccatcttctt tatgtatgcg 780
aaaccgaagt ctcaagacct gattggggaa gaaaaattgc aagcattaga caagctcatt 840
tctctgtttt atggggtagt gacacccatg ctgaatccta tactctatag cttgagaaat 900
aaggatgtaa aagctgctgt aaaatatttg ctgaacaaaa aaccaattca c 951

<210> 185
<211> 927
<212> DNA
<213> Unknown (H38g33 nucleotide)

<220>
<223> Synthetic construct

<400> 185
atgggtgcca agaacaatgt gactgagttt gttttatttg gcctttttga gagcagagag 60
atgcagcata catgctttgt ggtattcttc ctctttcatg tgctcactgt cctggggaac 120
cttctggtca tcatcaccat caatgctaga aagaccctga agtctcccat gtatttcttc 180
ctgagccagt tgtcttttgc tgacatatgt tatccatcca ctaccatacc caagatgatt 240
gctgacactt ttgtggagca taagatcatc tccttcaatg gctgcatgac ccagctcttt 300
tctgcccact tctttggtgg cactgagatc ttcctcctta cagccatggc ctatgaccgc 360
tatgtggcca tctgtaggcc cctgcactac acagccatca tggattgccg gaagtgtggc 420
ctgctagcgg gggcctcctg gttagctggc ttcctgcatt ccatcctgca gaccctcctc 480
acggttcagc tgccttttg tgggcccaat gagatagaca acttcttctg tgatgttcat 540
cccctgctca agttggcctg tgcagacacc tacatggtag gtctcatcgt ggtggccaac 600
agcggtatga tttctttagc atcctttttt atccttatca tttcctatgt tatcatctta 660
ctgaacctaa gaagccagtc atctgaggac cggcgtaagg ctgtctccac atgtggctca 720
cacgtaatca ctgtcctttt ggttctcatg ccccccatgt tcatgtacat tcgtccctcc 780
accaccctgg ctgctgacaa acttatcatc ctctttaaca ttgtgatgcc acctttgctg 840
aaccctttga tctatacact aaggaacaac gatgtgaaaa atgccatgag gaagctgttt 900
agggtcaaga ggagcttagg ggagaag 927

<210> 186
<211> 987
<212> DNA
<213> Unknown (H38g34 nucleotide)

<220>
<223> Synthetic construct

<400> 186
gctacttgcc acttgtgaac acacaatgcg gctccttttt tgctgcctgg cttttcagta 60
ctggaggcaa cttatcactc gatctccatc cccttctttg ctgtttatgt gtgcgtcctt 120
cttggcaatg gcaagctcct ctacctcatc aagcatgacc acagtcttca cgaacccatg 180
tactgtttcc ttgccacact gaggcaagac ctcatggtga aattgaccat gatgcccact 240
gtaatgggcg tcttgtggat gaatcacaaa gaggttatcc atggggcctg cttcttgcag 300
gtttacatta tccactccca ttatccactt gcagaatcag gtattctcct gtcaatggcc 360
tatgaccgtt tcattatcat ccacatgctt ctcaggtata actctatttc tactaaatct 420
tgggtgaaga tagaactgtg gctatttatg agggactttt tatccctcgt gcctccaatt 480
ctgccactcc attgcttccc atattgtcat tcccatgttc tcttccacac ctttttttctc 540
catcaagatg tcctgaaact tgcctgtgct gatattacat tcaatcactt atacccagct 600
attctggttg ctttgatttt cttcctagac gctctgatca ttgtcttttc ttatatcctg 660

atccttaaaa cagttatagg tattgcctcc agaaaagagc aagccaaagc tctcaacatg 720
tgtgtctccc atatcagctg tgtcttggta tttcacatca ccgtgatcag tgagactttc 780
attcacaggt ttgggaaaca tgcaccacat gtggtgcaca ttaccgtgag ctaatgactc 840
atttcttttt cctccattca tgaaccctat tatatacagc atcaaaccaa gcagatccaa 900
agaagcattg ttcgcctatt ttctgggcac agaatggctt gagccctttt ttcagaattt 960
tgtgatcttc atgatttctg ggccttt 987

<210> 187
<211> 887
<212> DNA
<213> Unknown (H38g35 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(887)
<223> n = A,T,C or G

<400> 187
ctgctgctcc tggtgctcct gctgcccacg ttcctgctga gtcttntggg gaacntgctc 60
atcatctcca ctgtgctgtc ctgctcccgc ctccacaccc ccatgacttc ttcttgtgca 120
acctctctat cctggacatc ctcttcacct cagtcatctc tccaaaagtg ttggccaact 180
taggatctag ggataaaacc atctcctttg ccggatgtat cacccagtgc tatttctact 240
ttttcttggg cacagttgag ttcctcctgc tgacggtcat gtcctatgac tgctatgccg 300
ccatctgctg cccccctgcgg tacaccacca tcatgagacc ttatgtctgc attgggaccg 360
ttgtgttctc ttgggtggga ggcttcctgt ctgtgctctt tccaaccatc ctcatctccc 420
agctgccctt ctgtggctcc aatatcatta accacttctt ctgtgacagt ggacccttgc 480
tggccctggc ctgtgcagac accactgcca tcgagctgat ggattttatg ctttcttcca 540
tggtcatcct ctgctgcata gtcctcgtgg cctattccta tacgtacatc atcttgacca 600
taatgcgcat tccttctgca agtggaagga agaaggcctt taatacctgt gcttcccacc 660
tgaccatagt catcatttct agtggcatca ctgtgtttat ctatgtgact ccctcccaga 720
aagaatatct ggagatcaac aagatccctt cggttctgag cagtttggtg actccattcc 780
tcaacccctt tatatatact ctgaggaatg acacagtgca gggagtcctc agggatgtgt 840
gggtcagggt tcgaggagtt ttcgaaaaga ggatgagggc agtgctg 887

<210> 188
<211> 930
<212> DNA
<213> Unknown (H38g36 nucleotide)

<220>
<223> Synthetic construct

<400> 188
atgtggtata acaacagtgc tggcccctc ttgctgactg gcttcttggg ctcagaggca 60
gttcactacc ggatctctat gtccttcttt gtcatctact tctccgtcct ttttggaaat 120
ggcactcttc ttgtcctcat ttggaatgat cacagcctcc atgagcccat gtactacttc 180
ctggctatgc tggcagacac ggaccttggg atgacattca ctacaatgcc cacagtcctg 240
ggtgtcctgc tgctagacca gagggagatt gcccatgctg cctgtttcac ccaatccttc 300
attcattcac tggccattgt agaatcaggt atcttgcttg ttttggccta tgactgtttc 360
attgccatcc gcacaccact gaggtacaac tgcattctta ccaattcccg agtgatgaac 420
ataggactgg gggtactgat gagaggtttt atgtccattt tgcccataat tctttcactc 480
tactgctacc catattgtgg ttcccgtgcc ctcttgcaca cattttgcct ccatcaagat 540
gtcataaaac tcgcctgtgc tgatatcacg tttaatcaca tatatccaat tattcagact 600
tctttgactg tctttttaga tgctctaatc atcatctttt cttatatact aatccttaag 660
acagtgatgg gcattgcgtc tggacaagag gaagctaaat ctctcaacac ttgtgtctcc 720
catattagct gtgtcctagt atttcacatc actgtgatgg gactgtcatt cattcacagg 780
tttgggaaac atgcacctca tgtggtcccc attaccatga gctatgtcca ttttctcttt 840
cctccattcg tgaatcctat catttatagc atcaagacca agcagattca aagaagcatt 900
attcgcctat tttctgggca gagtagggct 930

<210> 189
<211> 996
<212> DNA
<213> Unknown (H38g37 nucleotide)

<220>
<223> Synthetic construct

<400> 189
cacacagagc cacggaatct cacaggtgtc tgagaattcc tcctccttgg actcccagag 60
gatccagaac tgcagccggt tctcgctttg ctctccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct catcatcctg gctgtcagct ctgtctctcc cctccacacc 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcggccacg 240
gttcccaaga tgattgtgga catgcagtcg catagcagag ccatctctca tgcgggctgt 300
ctgacgcaga tgtctttctt gttccttttt gcatgtatag aaggcatgct cctgactgtg 360
atggcctatg actgctttgt agccatctgt cgccctctgc actacccagt catcgtgaat 420
cctcacttct gtgtcttctt cgttttggtg tcctttttcc ttagcctgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcacc atcttcaaga atgtggaaat ctctaatttt 540
gtctgtgacc cctctcaact tctcaaactt gcctgttctg acggcgtcat caatagcata 600
ttcatatatt ttgatagtac tatgtttggt ttccttccca tttcagggat cctatggtct 660
tactataaaa tcgtcccctc cattctaagg atttcatcgt cagatgggaa gtataaagcc 720
ttctccacct gtggctctca ccaggcagtt gtttgctgat tttatagaac aggcattggc 780
atgtacctga cttcagctgt gtcaccaccc cccaggaatg gtgtggtggc atcattgata 840
tacgctgttg tcactcccat gctgaacctt ttcatctaca gcctgagaaa cagggacata 900
caaagtgccc tgcggaggct gctcagcaga acagtcgaat ctcatgatct gttccatcct 960
ttttcttggt gggtgagaaa gggcaaccac attaaa 996

<210> 190
<211> 930
<212> DNA
<213> Unknown (H38g38 nucleotide)

<220>
<223> Synthetic construct

<400> 190
atgggagaca atataacatc catcagagag ttcctcctac tgggatttcc cgttggccca 60
aggattcaga tgctcctctt tgggctcttc tccctgttct acgtcttcac cctgctgggg 120
aacgggacca tactggggct catctcactg gactccagac tgcacgcccc catgtacttc 180
ttcctctcac acctggcggt cgtcgacatc gcctacgcct gcaacacggt gccccggatg 240
ctggtgaacc tcctgcatcc agccaagccc atctcctttg cgggccgcat gatgcagacc 300
tttctgtttt ccacttttgc tgtcacagaa tgtctcctcc tggtggtgat gtcctatgat 360
ctgtacgtgg ccatctgcca ccccctccga tatttggcca tcatgacctg gagagtctgc 420
atcaccctcg cggtgacttc ctggaccact ggagtccttt tatccttgat tcatcttgtg 480
ttacttctac ctttaccctt ctgtaggccc cagaaaattt atcacttttt ttgtgaaatc 540
ttggctgttc tcaaacttgc ctgtgcagat acccacatca atgagaacat ggtcttggcc 600
ggagcaattt ctgggctggt gggacccttg tccacaattg tagtttcata tatgtgcatc 660
ctctgtgcta tccttcagat ccaatcaagg gaagttcaga ggaaagcctt ccgcacctgc 720
ttctcccacc tctgtgtgat tggactcgtt tatggcacag ccattatcat gtatgttgga 780
cccagatatg ggaaccccaa ggagcagaag aaatatctcc tgctgtttca cagcctcttt 840
aatcccatgc tcaatcccct tatctgtagt cttaggaact cagaagtgaa gaatactttg 900
aagagagtgc tgggagtaga aagggcttta 930

<210> 191
<211> 968
<212> DNA
<213> Unknown (H38g39 nucleotide)

<220>
<223> Synthetic construct

<400> 191
cacacagagc cacggaatct cacgggtgtc tgagaattcc tcctcctggg aatctcagag 60
gatccagaac tgcagcccgt cctcgctggg ctgaccctgt ccatgtacct ggtcacggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cacctccatg 180
tacttcgtcc tctccaacct gcgctgggtt gacatcggtt tcacctcggc cacggttccc 240
aagatgattg tggacatgca gtcgcatagc agagtcatct cttatgcggg ctgcctgaca 300
cagatgtctt tcttggtctt ttttgcatgt atagaagaca tgctcctgac tgtgatgtcc 360
tatgaccaat ttttggccat ctgtcacccc ctgcactacc cagtcatcgt gaatcctcac 420
ttctgtgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcat 480
agatggattg tgttacaatt caccttcttc aagaatgtgg aaatctctaa ttttgtctgt 540
gagccatctc aacttctcaa ccttgcctgt tctgacagcg tcatcaatat catattcata 600
tatttagata gtactatgtt tggttttctt cccatttcag ggatcctttt gtcttactat 660
aaaattgtcc cctccattct aaggatgtca ttgtcagatg tgaagtataa agccttctcc 720
acctgtggct ctcacctggc agtttttgc ttattttacg gagcaggcat tggcgtgtac 780
ctgacttcag ctgtgtcacc accttccggc aatggtgtgg tggcttcagt gatgtacact 840
gtggtcaccc ccatgctgaa ccctttcatc tacagcctga gaaacaggga cattcaaagt 900
gccccgtgga ggctgcgcag cacaacagtt gaatctcatg atctcttcca tcctttttct 960
tgtgtctg 968

<210> 192
<211> 960
<212> DNA
<213> Unknown (H38g40 nucleotide)

<220>
<223> Synthetic construct

<400> 192
cacacagagc cacagaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcccat cctggctggt ctgtccctgt ccatgtatct ggtcacggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgacc cccacctcca cacccccatg 180
tgcttcttcc tctccaacct gtgctgggct gacatcggtt tcaccttggc cacggttcct 240
aagatgattg tggacatgca gtctcatacc agagtcatct cttatgaggg ctgcctgaca 300
cggatatctt tcttggtcct ttttgcatgt atagaagaca tgctcctgac tgtgatggcc 360
tatgactgct ttgtagccat ctgtcgccct ctgcactacc cagtcatcgt gaatcctcac 420
ctctgtgtct tcttcctttt ggtatacttt ttccttagct tgttggattc ccagctgcac 480
agttggattg tgttacaatt caccatcatc aagaatgtgg aaatctctaa ttttgtctgt 540
gacccctctc aacttctcaa acttgcctgt tctgacagcg tcatcaatag catattcatg 600
tatttccata gtactatgtt tggttttctt cccatttcag ggatcctttt gtcttactat 660
aaaatcgtcc cctccattct aaggatttca tcatcagatg ggaagtataa agccttctcc 720
acctgtggct ctcacttggc agttgtttgc tgattttatg gaacaggcat tggcgtgtac 780
ctgacttcag ctgtgtcacc accccccagg aatggtgtgg tagcgtcagt gatgtacgct 840
gtggtcaccc ccatgctgaa ccttttcatc tacagcctga gaaacaggga catacaaagt 900
gccctgcgga ggctgctcag cagaacagtc gaatctcatg atctgttcca tcctttttct 960

<210> 193
<211> 980
<212> DNA
<213> Unknown (H38g41 nucleotide)

<220>
<223> Synthetic construct

<400> 193
tctacagact gacagagtct aacaggtgtc tctatattcc tcctcctaga actctcagag 60
gatccagaac tgcagccggt cctcgctggg ctgttcctgt ccatgtgcct ggtcaaggtg 120
ctggggaacc tgctcatcat cctggccatc agccctgact cccacctcca cacccccatg 180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcacctccac catggtcccc 240
aagatgattg tggaatccaa tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg 360

gcctatgacc ggtttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gcttcctagt tttgctgtct tttttttctt tctttttctc agctgcacaa 480
cttgattgcc ttaaaaatga cctgcttcaa gaatgtggga attcctaatt tcctctgtga 540
cccttctcaa ctcccccatc tcacatgttg tgacaccttc accaatcaca taatcatgta 600
tttccccgct gccatatttg gttttcttcc catctcgggg acccttttct cttaccatgt 660
aattgtttcc tccattctga gggtttcatc atctgtggga ggtgtaaagc cttccccatc 720
tgtgagttgt ttgctgatat tatggaacag gctttggagg gtacctcagt tcagatgtgt 780
catcttccct gagaaaggct gcagtggcct cagtgatgta catggtggtc acacccatgc 840
tgaacccctt catctacagc ctgagaaaca gggatattaa aagtgtcgtg cagcggccgc 900
atggcagcac ggtctaatct caatatcttc ttatctgttc cattcctttt gtagtgtggg 960
ttaaaaaagg cagcaaggtc 980

<210> 194
<211> 939
<212> DNA
<213> Unknown (H38g42 nucleotide)

<220>
<223> Synthetic construct

<400> 194
atgggaaact ggagcactgt gactgaaatc accctaattg ccttcccagc tctcctggag 60
attcgaatat ctctcttcgt ggttcttgtg gtaacttaca cattaacagc aacaggaaac 120
atcaccatca tctccctgat atggattgat catcgcctgc aaactccaat gtacttcttc 180
ctcagtaatt tgtcctttct ggatatctta tacaccactg tcattacccc aaagttgttg 240
gcctgcctcc taggagaaga gaaaaccata tcttttgctg gttgcatgat ccaaacatat 300
ttctacttct ttctggggac ggtggagttt atcctcttgg cggtgatgtc ctttgaccgc 360
tacatggcta tctgcgaccc actgcactac acggtcatca tgaacagcag ggcctgcctt 420
ctgctggttc tgggatgctg ggtgggagcc ttcctgtctg tgttgtttcc aaccattgta 480
gtgacaaggc taccttactg taggaaagaa attaatcatt tcttctgtga cattgcccct 540
cttcttcagg tggcctgtat aaatactcac ctcattgaga agataaactt tctcctctct 600
gcccttgtca tcctgagctc cctggcattc actactgggt cctacgtgta cataatttct 660
accatcctgc gtatcccctc cacccagggc cgtcagaaag ctttttctac ctgtgcttct 720
cacatcactg ttgtctccat tgcccacggg agcaacatct ttgtgtatgt gagacccaat 780
cagaactcct cactggatta tgacaaggtg gccgctgtcc tcatcacagt ggtgacccct 840
ctcctgaacc cttttatcta cagcttgagg aatgagaagg tacaggaagt gttgagagag 900
acagtgaaca gaatcatgac cttgatacaa aggaaaact 939

<210> 195
<211> 737
<212> DNA
<213> Unknown (H38g43 nucleotide)

<220>
<223> Synthetic construct

<400> 195
atgggaaata tcaacataag tcttgaaaat tactttattc tactgggtct ttctaattga 60
cctcctctgg aaatagttat ttttgtagtt ctcttgatat tctgcttcat gacactgata 120
ggcaagctgt tcagcatcat tctgtcatac ctggactccc atccccacac tctcggtact 180
tattctcttt tctggatttc tgctacacca tcagttccat cttttaatta cagtacaatc 240
tctggggccc acagaagaac atctcttatg ccagtggtat gattcaaatt tattttgttc 300
tcacactggg aaccatggat tgcgctctac tggtggtgat gtccaggact gtgatgcagc 360
tggacacaga cacttgcctt atactgttgt tatggctgtg gctttttggg taagtagctt 420
taccaactca gcatttgatt ccttttttac cttctgggta accctgtgtg gacatcacta 480
ttatgcttac atctttatat ttacatcatt gttagtataa agatggttca ttaacagaaa 540
gaaacagtct gtgttctcac tgaatcatgc agctttatta acattatctt ttccattata 600
aaatgactgc ttccaggaga ttgaaaagaa catgttaaga aaagcacagc attggagaat 660
ctgaaagcat gtgatcttgt tcaattaaac caagtatcaa aaacatgcat ttttatgaga 720
ctattttagg aaattca 737

<210> 196
<211> 949
<212> DNA
<213> Unknown (H38g44 nucleotide)

<220>
<223> Synthetic construct

<400> 196
gacatccaaa atcagaccac agtgactgag tttaccctga cggcctttcc ggttcttcag 60
cagcttcaaa tttccctttt ggcagtcctc tggtttactt atatgcttac tctaacagga 120
aacgttgcca tcatttccct aacatgtgcg aatcatcgcc tccaaacccc aatgtacttc 180
ttcctcagta attggtcaat ttgggacatt tttttcacca cctcagttat cccaaagcta 240
ttagcctgtc tcctgcagga caagaagacc atatctttgg ctgggtgcat cacccaaact 300
tatttccttg gttttctggg ggacagtgga gtttatcctc tgggcagtga tgtcctttga 360
ctgctacgtg gccatctgtg accccctgca ctacaccatt atcatgaaca gcagggcctg 420
cctcctacta gttctgggct gctgggttgg agccttcctg tctgtgttgt gcccaaccat 480
tgtggtgtcc agattgcctt tctgttacaa ggaaattagt cacttcttct gtgacatcac 540
ccctctgcta catgtgtcct gtatagacac tcatttcatc gagatgataa acttcctctt 600
atcttccctc atcctcctga cctcactggt gctcaccact gtgtcctaca tctacatcat 660
ttctaccatc ctgcacatcc cctcagccca aggacgtcgg aaggcctttt ccacgtgcgc 720
ttcccacatc accgtcattt ccatcgctta tataagcaac atcttcaggt atgtgaggcc 780
cagccagagt cattcaatgg gttttgacaa ggtgacagct gtccccacaa tggtgacccc 840
tcttctgaat cccttcactt atagtctaag aaatgaaaag gtaaaggcag tcttgaaaga 900
agcagtcagc aaaattatgt cctcatggca caggagaact taaaacttt 949

<210> 197
<211> 930
<212> DNA
<213> Unknown (H38g45 nucleotide)

<220>
<223> Synthetic construct

<400> 197
atggaaccac agaacaccac acaggtatca atgtttgtcc tcttagggtt ttcacagacc 60
caagagctcc agaaattcct gttccttctg ttcctgttag tctatgttac caccattgtg 120
ggaaacctcc ttatcatggt cacagtgact tttgactgcc ggctccacac acccatgtat 180
tttctgctcc gaaatctagc tctcatagac ctctgctatt ccacagtcac ctctccaaag 240
atgctggtgg acttcctcca tgagaccaag acgatctcct accagggctg catggcccag 300
atcttcttct tccacctttt gggaggtggg actgtctttt ttctctcagt catggcctat 360
gaccgctaca tagccatctc ccagcccctc cggtatgtca ccatcatgaa cactcaattg 420
tgtgtgggcc tggtagtagc cgcctgggtg gggggctttg tccactccat tgtccaactg 480
gctctgatac ttccactgcc cttctgtgac cccaatatca tagataactt ctactgtgat 540
gttccccaag tactgagact tgcctgcact gatacctccc tcctggagtt cctcatgatc 600
ttcaacagtg ggctgctagt tatcatctgg ttcctcctcc ttctgatctc ttatactgtc 660
atcctggtga tgctgaggtc ccactcggga aaggcaagga ggaaggcagc ttccacctgc 720
accacccaca tcatcgtggt gtccatgatc ttcattccct gtatctatat ctatacctgg 780
cccttcaccc cattcctcat ggacaaggct gtgtccatca gctacacagt catgaccccc 840
atgctcaacc ccatgatcta caccctgaga aaccaggaca tgaaagcagc catgaggaga 900
ttaggcaagt gcctagtaat ttgcagggag 930

<210> 198
<211> 932
<212> DNA
<213> Unknown (H38g46 nucleotide)

<220>
<223> Synthetic construct

<400> 198

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gaccaagaaa atcagacttc tgaagtcacc ttcatcctct tgggcttctc agaatatcca      60
gaccttcaga cgcccctgtt cctggtgttc ctgaccatct acacagtcac tgtgctgggg     120
aatctgggca tgatcatagt catcaggatc agccccaaac tccacacccc catgtgcttt     180
ttcctcagcc acttgtcctt tgttgatttc tgttattcca ccacaattac acccaaactg     240
ctggagaact tggttgtgga agatagaact atctccttca caggatgcac catgcagtta     300
ttctttgtct gcatatttgt agtaacagaa acattcatgc tggcagtgat ggcctatgac     360
cgatatgtgg cggtgtgtaa ccctcttctc tacacagttg caatgtacca gaggctttgc     420
tccttgttag tggctacatc atactgttgg gggatagtct gttccctgac acttacctag     480
tttctactgg aattatcctt cagaggaaat aatatcatta ataactttgt ctgtgagcac     540
gctgccattg ttgctgtgtc ttgctctgac ccctgtgtga gccaggagat cactttagtt     600
tctgccacat tcaatgaaat aagcagcctg cttcctatgc tttcattttt atcactgtca     660
tgaagacgcc ttccactggg gggcgcaaga aagcgttctc cacgtctgcc tcccacttga     720
cggccattac cattttccat gggactatcc ttttcctcta ctgtgttcct aactccaaaa     780
gttcgtggct catggtcaag gtggcctctg tcttttacac agtggtcatt cccatgctga     840
acccctt gat ctatagcctc aggaacaaag atgtaaaaga gacagttagg aggttactca     900
ttaccaaatt attatgtctc atattataaa at                                   932
```

<210> 199
<211> 1000
<212> DNA
<213> Unknown (H38g47 nucleotide)

<220>
<223> Synthetic construct

<400> 199

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tatgcagacc cacagaatct aacagatgtc tctatattcc tcctcctaga agtctcaggg      60
gatccagaac tgcagccagt ccttgctggg ctgttcctgt ccatgtgcct ggtcacggtg     120
ctggggaacc tgctcatcat cctggccatc agccctgact cccacctcca cacccccatg     180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcacctccac cacggtcccc     240
aagatgattg tggacatcca gtctcacagc agagtcatct cctatgcagg ctgcctgact     300
cagatgtctc tctttgccat ttttggaggc atggaagaga gacatgctcc tgagtgtgat     360
ggcctatgac tggtttgtag ccatctgtca cccgctatat cattcaccat catgaacccg     420
tgtttctgtg cctttctagt tttgttgtct tttttttct cagtctttta gactcccagc      480
tgcacaactt gattgcctta caagtgacct gcttcaagga tgtggaaatt cctaatttct     540
tctgtgaccc ttctcaactc tcccatcttg catgttgtga caccttcacc attaacataa     600
tcatgtattt ccctgctgcc atatttggtt ttcttcccat cttggggacc cttttctctt     660
tctctaaaat tgtttcctcc attctgaggg tttcttcatc aggtgggaag tataaagccc     720
tctccacctg tgggtctcgc ctgtcagttg tttgctgagt ttatggaaca ggcgttggag     780
ggtacctcag ttcagatgtg tcatcttccc ccagaaaggg tgcagtggcc tcagtgatgt     840
acacactggt cacccccatg ctgacccccct tcatctacag cctgagaaac agggatatga    900
aaggtgtcct gcggcagccg cacggcagca cagtctaatc tcaatatctt atctgttcca     960
ttcctttgta gtgtgggttc aaaaaggcag caaggtcaaa                          1000
```

<210> 200
<211> 921
<212> DNA
<213> Unknown (H38g48 nucleotide)

<220>
<223> Synthetic construct

<400> 200

```
atggaaacag ggaacctcac gtgggtatca gactttgtct tcctggggct ctcgcagact      60
cgggagctcc agcgtttcct gtttctaatg ttcctgtttg tctacatcac cactgttatg     120
ggaaacatcc ttatcatcat cacagtgacc tctgattccc agctccacac acccatgtac     180
tttctgctcc gaaacctggc tgtcctagac ctctgtttct cttcagtcac tgctcccaaa     240
atgctagtgg acctcctctc tgagaagaaa accatctctt accagggctg catgggtcag     300
atcttcttct tccacttttt gggaggtgcc atggtcttct tcctctcagt gatggccttt     360
gaccgcctca ttgccatctc ccggcccctc cgctatgtca ccgtcatgaa cactcagctc     420
tgggtggggc tggtggtagc cacctgggtg ggaggctttg tccactctat tgtccagctg     480
```

gctctgatgc tcccactgcc cttctgtggc cccaacattt tggataactt ctactgtgat 540
gttccccaag tactgagact tgcctgcact gacacctcac tgctggagtt cctcaagatc 600
tccaacagtg ggctgctgga tgtcgtctgg ttcttcctcc tcctgatgtc ctacttattc 660
atcctggtga tgctgaggtc acatccaggg gaggcaagaa ggaaggcagc ttccacctgc 720
accacccaca tcatcgtggt ttccatgatc ttcgttccaa gcatttacct ctatgcccgg 780
cccttcactc cattccctat ggacaagctt gtgtccatcg gccacacagt catgaccccc 840
atgctcaacc ccatgatcta taccctgagg aaccaggaca tgcaggcagc agtgagaaga 900
ttagggagac accggctggt t 921

<210> 201
<211> 947
<212> DNA
<213> Unknown (H38g49 nucleotide)

<220>
<223> Synthetic construct

<400> 201
cacacagagc cacagaatct cacagatgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctctccctgt ccctgtccat gtatctggtc 120
atggtgctga ggaacctgct cagcatcctg gctgtcagct ctgtctctcc cctccacacc 180
cccacctgtg ctgggctgac atcggtttca ccttggccac ggttcccaag atgattgtgg 240
acatgcagtc gcatagcaga gtcatctctc atgcgggctg tctgacgcag atgtctttct 300
tcatcctttt tgcatgtata gaaggcatgc tcctgactgt gatggcctat gactgctttg 360
tagccatctg tcgccctctg cactacccag tcatcgtgaa tcctcacctc tgtgtcttct 420
tcgttttggt gtccttttttc cttagcctgt tggattccca gctgcacagt tgaattgtgt 480
tacaattcac catcatcaag aatgtggaaa tctctcattt tttctgtgac ccctctcaac 540
ttctcaaact tgcctgttct gacagcgtca tcaatagcat attcatatat ttcgatagta 600
ctatgtttgg ttttcttccc atttcaggga tcctatggtc ttactataaa atcatcccct 660
ccattctaag gatttcatca tcatatggga agtataaagc cttctccaca tgtgcctctc 720
acctagcagt tgtttgctga ttttatgtaa caggcattgg catgtacctg acttcagctg 780
tgtcaccacc ccccagcaat ggtgtagtgg cgtcagtgat gtatgctgcg gtcactccca 840
tgctgaaccc tttcatctac agcctgagaa acagggacat acaaagtgcc ctgcggaggg 900
tgctcagcag aacagtcgaa tttcatgatc tgttccatcc tttttct 947

<210> 202
<211> 369
<212> DNA
<213> Unknown (H38g50 nucleotide)

<220>
<223> Synthetic construct

<400> 202
atgtctggct cccccactca actgacagca ggccccagga cagccagtgg ctgtgtcatc 60
atgatctgct ttgccctcac tgtcctctct tacatccgca tcttggccac agtggttcag 120
atccgttcag cagccagccg ccggaaggcc ttctccacct gttcttccca cctgggcatg 180
gtgctcctgt tctatggcac cggcagctcc acctacatgc gacccaccac ccgctactcc 240
ccgctggaag ggcgcttggc tgctgtcttc tactccatcc tcataccac cctgaatccg 300
ctcatctaca gcctgaggaa ccaggacatg aagagagccc tgtggaagct ctatctccag 360
gtgccatac 369

<210> 203
<211> 1068
<212> DNA
<213> Unknown (H38g51 nucleotide)

<220>
<223> Synthetic construct

<400> 203

```
atgatcaatg atagccactt cagtggtttt atactccttg gattcacagg gcagcctcag     60
cttcagatga tgatctctgg ggttgtcttt ttcttctaca ctattgcctt catgggaaat    120
atggccatca tcctattgtc tttcctagat gaccatctcc aagtccccat gtacttcttc    180
cttagaaatt tggccatctt ggatctctgt tataccacaa atatagtccc acaaatgttg    240
gtcagtatct ggggcaaaga caaaagaatt acctttggtg ggtgtgcctt tcaacttttc    300
attgatgtgg cactgtactc agttgaatgc atccttctgt ccatgatgtc atatgatcga    360
ctcaatgcta tctgcaagcc tctgcatcat atgaccataa tgaacctcca actctgccag    420
ggccttgtgg tcatctcctg ggtagttggt gtgattaatt gcatcatacc ttccccttat    480
gccacgagtc ttcctcgatg taggaaccac cacctagacc actttttgt gtgtgtgaaa    540
tgtctgcaat gatcaagatt caagattgca tgtgtggaca ccacagccat ggaggtaacc    600
acatttgcca tgtgcctgat tatagttctt gttcctcttc ttcttattct tgtgtcatat    660
ggtttcattg ctgtggctgt actcaagatc aagtctgcag caggaagaca aaaagcattt    720
gggacctgtt cctcccatct cgttgtggta tccatcttct gtgggacagt tacatacatg    780
tatatacagc caggaaacag tccaaatcag aatgagggca aacttctcag tatattttac    840
tccattgtta ctcccagctt gaacccatta atttatacgg taaggaataa ggagttcaag    900
ggggccatga agaggctaac tggaaaagaa aaagattgca tggaaaaaag aggacattga    960
ttcttcctcc cagcaatttc taatatggca attgatcttc ccaatctaaa atgtagacaa   1020
tttattttgt aaataaattg tctacacctg agataaagat aatatcca              1068
```

<210> 204
<211> 949
<212> DNA
<213> Unknown (H38g52 nucleotide)

<220>
<223> Synthetic construct

<400> 204

```
atgatcaatg atagttactt tggttggctt atgctccttg ggttccctgg gaagcctcag     60
ctggagatga tcatctctgg ggttgtcttt ttcttctatg caatttcttt gatgggaaat    120
atggtcctta tcctgctgcc attactggat aaacatctcc aaaccccat atatttcttt    180
cttagaaatc tggctatctt ggatctttgt tacaccacaa atatagtccc acagatgttg    240
gtcaatgcct ggggtaaaga caagaaaatc acttttggtg gctgtgcttt tcaacttttc    300
actaatgtga cgctatgcac ggttgaatgt atgcttctgg ctgtgatgtc atatgaccca    360
ttcaatgctg tctgcaagcc tctggactat atgaccataa tgaaccccca actctgtcaa    420
ggcctggtgg ccatgacctg gttaattggt gtcactaatt gcatgatact ttccccctgt    480
cctgtgagtc ttcctcgatg cggagaccac cacctggatc actattttg tgaaatatct    540
gcaatggtca aaattgcatg tggggctacc acagtcatgg aggaaaaacc ttatttgcat    600
tgtgttgttg ttgttgtttt cattttcctt gcatcacttc ttctcattct tgtgtcatat    660
ggcttcattg ctgtggctgt actcaagatc aagtctgcag caggaagaca aaaagcattt    720
gggacctgtt tctcccatct cattgtggta tccatcttct atgggactgt tagatatatg    780
tatatagagc caggaaacag tccatctcag gatgagggca aacttctcca tatattttac    840
tccattgtta ctcccacctt gaacccatcc cactaaggaa taaggagttc aagtgggcca    900
tgaaaaggct tattggaaaa gaaaaaggtt ctggagacac aataggtca              949
```

<210> 205
<211> 936
<212> DNA
<213> Unknown (H38g53 nucleotide)

<220>
<223> Synthetic construct

<400> 205

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atggttaacc aaagctccac accgggcttc ctccttctgg gcttctctga acacccaggg     60
ctggaaagga ctctcttcgt ggttgtcttc acttcctacc tcctaaccct agtgggcaac    120
acactcatca tcctgctgtc tgcgctggac cccaagctcc actctccaat gtactttttc    180
ctctccaacc tctccttctt ggacctctgt ttcaccacga gttgtgttcc ccaaatgctg    240
gtcaacctct ggggcccaaa gaagaccatc agcttcctgg actgctctgt ccagatcttc    300
atcttcctgt ccctggggac aactgagtgc atcctcttga cagtgatggc ttttgatcgc    360
tacgtggctg tctgccagcc cctccactat gccaccatca tccacccccg cctgtgctgg    420
```

cagctggcat ctgtggcctg ggtcattggg ctagtggagt cagtggtcca gacaccatcc 480
accctgcacc tgcccttctg ccccgatcgg caggtggatg atttgtctg tgaggtccca 540
gctctaattc gactctcctg tgaagacacc tcctacaatg agatccaggt ggctgttgcc 600
agtgtcttca tcttggttgt gcctctcagc ctcatccttg tctcttacgg agccattacc 660
tgggcagtgc tgaggattaa ctctgcaaaa gggcggagga aagcttttgg gacctgctcc 720
tcccatctca ctgtggtcac cctcttctac agctcagtca ttgctgtcta cctccagccc 780
aaaaatccct atgcccaaga gaggggcaag ttctttggtc tcttctatgc agtgggcact 840
ccttcactta accctctcat atacaccctg aggaacaagg aggtaaccag ggcattcagg 900
agattgctgg ggaaggaaat ggggctcaca caaagc 936

<210> 206
<211> 1030
<212> DNA
<213> Unknown (H38g54 nucleotide)

<220>
<223> Synthetic construct

<400> 206
atggttaacc aaagctccgc accaggcttt ctccttctgg gcttctctga acacccagca 60
ctggaaagga ctctctttgt agttgtcttc acttcctacc tcctaacccc ggtggactca 120
tcatcctgct gtctgtgctg gaccccaggc tccactctcc aatgtacttt ttcctctcca 180
acctctcctt cttggacctc tgtttcacca taagttgtgt ccccgggatg ctggtcaacc 240
tctgggagcc aaagaagacc atcatcttac tgggctgctc tgtccagttc ttcatcttcc 300
tgtccctggg gaccactgag tgcatcctcc tgacggtgat ggcctttgac cgctacatgg 360
ctatcttcaa gcccctgcgc catgccacca tcgtccacct ctgcctgtgc tggcagctgg 420
catctgtggc ctgggtcatt gggctggtag agtcagtggt ccagacacca tccaccctgc 480
gcctgccttt ctgcccccat cagcaggtgg atgattttgt ctgtgaggtc ccagctctaa 540
ttcgactctc ctgtgaagac acctcctaca atgagatcca gatggctgtt gccagtgtct 600
tcatcttggc tgtgcctcag cctcatcctt gtctcttatg gagccattgc ctgggcagtg 660
ctaaggacta actgcaaaag ggcagaggaa agcttttggg acctgctcct cccatctcac 720
tgtggtcacc ctcttctaca gctcagtcat tgctgtctac ctccagccca aaaatcccta 780
tgcccaagag aggggcaagt tctttggtct cttctatgca gtgggcactc cttcacttaa 840
ccctctcata tacaccctga ggaacaagga ggtaaccagg gcattcagga gattgctggc 900
gaaggaaatg gggctcatac aaagttgagg gagagctgtt taatgtgctt tctaaattaa 960
gaagaaatta tttatccttt tgtgaacaag tttgagctcc caagtatact acctttcata 1020
cacccatcac 1030

<210> 207
<211> 873
<212> DNA
<213> Unknown (H38g55 nucleotide)

<220>
<223> Synthetic construct

<400> 207
atgttcgccg cccttgtcct cctgtgctac ctcctgacct tgacgggcaa ctcggcgctg 60
gtgctgctgg cggtgcgcga cccgcgcctg cacacgccca tgtactactt cctctgccac 120
ctggccttgg tagacgcggg cttcactact agcgtggtgc cgccgctgct ggccaacctg 180
cgcggaccag cgctctggct gccgcgcagc cactgcacgg cccagctgtg cgcatcgctg 240
gctctgggtt cggccgaatg cgtcctcctg gcggtgatgg ctctggaccg cgcggccaag 300
aaagtgaagg gggcagcgag gaggctgctg cggagtctgg ggagaggcca ggctgggcag 360
agcgcctcct ggctaagcgg cctcaccaac tcggttgcgc aaaccgcgct cctggctgag 420
cggccgctgt gcgcgccccg cctgctggac cacttcatct gtgagctgcc ggcgttgctc 480
aagctggcct gcggaggcga cggagacact accgagaacc agatgttcgc cgcccgcgtg 540
gtcatcctgc tgctgccgtt tgccgtcatc ctggcctcct acggtgccgt ggcccgagct 600
gtctgttgca tgcggttcag cggaggccgg aggagggcgg tgggcacgtg tgggtcccac 660
ctgacagccg tctgcctgtt ctacggctcg gccatctaca cctacctgca gcccgcgcag 720
cgctacaacc aggcacgggg caagttcgta tcgctcttct acaccgtggt cacacctgct 780
ctcaacccgc tcatctacac cctcaggaat aagaaagtga agggggcagc gaggaggctg 840

ctgcggagtc tggggagagg ccaggctggg cag 873

<210> 208
<211> 921
<212> DNA
<213> Unknown (H38g56 nucleotide)

<220>
<223> Synthetic construct

<400> 208
gagctgatta cgaattcgag ctcggtaccc tcttgtgagc ggacaattca gatcttcctc 60
ttctcactca taactacaat atatgcactg actataacag gtaatggagc cattgctttt 120
gccctgtggt gtgaccggcg acttcacact cccatgtaca tgttcctggg agatttctcc 180
tttttagaga tatggtatgt cttttctaca gttcccaaga tgttggtcaa cttcctttca 240
gagaaaacaa acatctcctt tgctggattg ctttctccag atctatttct tcttctcttt 300
gatacatcag aatgcttgct tttgactgtg atggcctttg atcagaacct tgctatctgc 360
cggcccttgc actatcctaa tatcatgact gggcatctct gtgccaaact ggccatactg 420
tgctgggttt gtggctttct gtggttcctg atccccattt tctcatctct cagatgccct 480
tctgtggccc aaacattatt gaccatgttg tgtgtgaccc agggccacta tttgcattgg 540
attgtgtttc tgccccaaga atccaactgt tttgctacac tctaagctca ttagttattt 600
ttggtaactt cctctttatt attggatcct atactattgt cctgaaagtt gtgttgggta 660
cgccttcaag cactgggaga cataaggcct tctctacctg tgggtctcat ttggctgtgg 720
tatcactgtg ctatggctct cttatggtca tgtatgtgag cccaggactc ggacattcta 780
cggagatgca gaaaattgta actttgttct atgctatggt gacctcactc ttcaatcccc 840
ttatctatag gcctccagaa taaggagata aaggcagcct tgaggaaagt tctggtgagt 900
tccaacataa tctaaggcat a 921

<210> 209
<211> 660
<212> DNA
<213> Unknown (H38g57 nucleotide)

<220>
<223> Synthetic construct

<400> 209
gcatgtaagc atgcatgatc ctgactgtga tggcctatga ctgcttagta gccatctgtc 60
gccctctgca ttacccagtc atcgtgaatc ctcacctctg tgtcttcttc gttttggtgt 120
ccttctcatt agcatgtagg ttcccagctg cacagttgaa ttgtgttaca attcaccatc 180
atcaagaatg tggaaatctc taattttgtc tgtgacccct ctcaatttct caaacttgcc 240
tgttctgaca gcgtcatcaa tagcatattc acgtatttcc atagtactat gtttggtttt 300
cttcccattt cagggatcct tttgtcttac tttaaaatcg tcaccttcat tctctggatt 360
tcatcttcag atgggaagta taaagccttc tccacctgtg actctcacct agcagttgtt 420
tgctgatttt atggaacagg cattggcgtg tacttgactt cagctctgtc accacccccc 480
aggaatggtg tgatggcgtc agtgatgtac gctgtggtca cccccatgct gaaccttttc 540
atctacagcc tgagaaacag ggacatacaa agtgccctgt ggaggctgct cagcagaaca 600
gtcgaatctc atgatctgtt ccatcctttt tcttgtgtgg gtaagggcaa ccacattaaa 660

<210> 210
<211> 942
<212> DNA
<213> Unknown (H38g58 nucleotide)

<220>
<223> Synthetic construct

<400> 210
atggccaaga ataatctcac cagagtaacc gaattcattc tcatgggctt tatggaccac 60
cccaaattgg agattcccct ctttctggtg tttctgagtt tctacctagt cacccttctt 120
gggaatgtgg ggatgattat gttaatccaa gtagatgtca aactctacac cccaatgtac 180

ttcttcctga gccacctctc cctgctggat gcctgttaca cctcagtcat cacccctcag 240
atcctagcca cattggccac aggcaaaacg gtcatctcct acggccactg tgctgcccag 300
ttctttttat tcaccatctg tgcaggcaca gagtgctttc tgctggcagt gatggcctat 360
gatcgctatg ctgccattcg caacccactg ctctataccg tggccatgaa tcccaggctc 420
tgctggagcc tggtggtagg agcctatgtc tgtggggtgt caggagccat cctgcgtacc 480
acttgcacct tcaccctctc cttctgtaag gacaatcaaa taaacttctt cttctgtgac 540
ctcccacccc tgctgaagct tgcctgcagt gacacagcaa acatcgagat tgtcatcatc 600
ttctttggca attttgtgat tttggccaat gcctccgtca tcctgatttc ctatctgctc 660
atcatcaaga ccattttgaa agtgaagtct tcaggtggca gggccaagac tttctccaca 720
tgtgcctctc acatcactgc tgtggccctt ttctttggag ccccttatctt catgtatctg 780
caaagtggct caggcaaatc tctggaggaa gacaaagtcg tgtctgtctt ctatacagtg 840
gtcatcccca tgctgaaccc tctgatctac agcttaagaa acaaagatgt aaaagacgcc 900
ttcagaaagg tcgctaggag actccaggtg tccctgagca tg 942

<210> 211
<211> 941
<212> DNA
<213> Unknown (H38g59 nucleotide)

<220>
<223> Synthetic construct

<400> 211
atgggtggtc taaaaagaga caatgcctct gagatgactg aactcatcct tgttggattt 60
gcccaacacc ctgaaatcca gactgccttc ttcttggaac tactgttttt ctactagtca 120
cagcgtttga gaacatcctt atcgttgctg tagtgagatg agattctcga cttcatactc 180
ctatgggatt ttttttcct cagtacctta tcctcccttg aaatgtgtta ctccatcagc 240
tgggagctat aagtcttggc tcaatgcatc aaggacttcc ccaccatctc ctataacagc 300
tgttctgttc agatgatcac acacctcttt ctggggatga cagtgtctcc tccttgctgg 360
catggcttac aacaggtttg ttgaaatctc ttatctcctc cattacacta ttattatgag 420
caatcgggtc tgtatacagt tggccttggg aatctggacc catgccttct tagtagcagt 480
cacactaatc attgcaattc ctgctagtta ttatggacac aatgtcatca accattttac 540
cttgagatcc aggccctgct gaagctcgtc tgctcagaca cccttgtcag cctgattcag 600
ggtctggtta tcagtgtgtt cacactgccc ctgcccttca cattcatcct catctcctaa 660
ttttgcattt ttgttgtgct gtggaggcta ggcgtgaagc tttctccacc tgtggatctc 720
atctgactgg agtcaccata ttttatgggg cagccatctg catgtacttg aaacctcagt 780
caaagggaac ccaggaagag gataaagttg tctcaaaact ttatggagca gttactccca 840
tgttaaatcc cccaatttac attcagagaa ataaggatat aaaaggtgca cttagaaagt 900
tagccaaagg aaatgaaaaa tcctaacagt tctctttaaa c 941

<210> 212
<211> 1049
<212> DNA
<213> Unknown (H38g61 nucleotide)

<220>
<223> Synthetic construct

<400> 212
atggatattc tggttattga taatggcagt gaagtgacag agttcatcct ggtgggtttg 60
tacaaccatc caaaatttca gattgccttt tatcgcacca tggtagtggt ctacctgatc 120
acatttgttg gtagcagtct cattattgtt gtggttaaag ttgatgggtg gcttcacact 180
cctatgtgtt ttttcctaag caacctgtcc ttccttgata tctgctactc cagcaattca 240
gtaccttttt tgttgttcaa tggcttaaga gactacccca ccatttccta taacagctgt 300
tatgcccaga tgaccagtgc ttttttctg gggatgacag ggtgtcttct ccttgctgtc 360
atggcttatg agagatttgt tgtgatctcc aatcccctgc gctacatcat cattatgaac 420
aataaggtct gcatacagtt ggccatggtg acctgggcca gtgccttcct tatgtcatta 480
atacaataat tgcaataata cattgcaata atacattaat tgcaatgatt gcattgcaat 540
tcctgcccat tttgtggac acaatgtcat caaccatttt acctgtgagg tgcaggaatt 600
gttgaagctt gtctgctcag acatcccagg cagcctcatc ctcggtctag tcatcggcat 660
attcaccttg tccctgccct tcaccttgcc cctgcccttc accttcatcc tcttcgccta 720

tgctcacatt gtggttgctg tgctgaggat caactctgca gaggccagac tcaaagcttt 780
ctccacctgt ggatcccatc tgactgtgat catcatattt tatgggacag ccacctacat 840
gtacttgaaa cctcagtcaa gggaatccca agatgagggt aaagtcatct ctgtattttt 900
tttgaaagta gagaagcaac atcaaaatga tagcatctct gtattttatg gtgttgtgac 960
ccctatgttg aaccccctca tttacacctt gagagacaag gatgcgaaaa tgctctaaga 1020
aaaataatta ggaagaaaga gtcctaaaa 1049

<210> 213
<211> 954
<212> DNA
<213> Unknown (H38g62 nucleotide)

<220>
<223> Synthetic construct

<400> 213
atggacaaga taaaccagac atttgtgaga gaattcattc ttctgggact ctctggttac 60
cccaaacttg agatcatttt ctttgctctg attctagtta tgtacgtagt gattctaatt 120
ggcaatggtg ttctgatcat agcaagcatc ttggattctc gtcttcacat gcccatgtac 180
ttcttcctgg gcaacctctc tttcctggat atctgctata caacctcctc cattccctca 240
acactggtga gcttaatctc aaagaaaaga aacatttcct tctctggatg tgcagtgcag 300
atgttctttg ggtttgcaat ggggtcaaca gaatgtttcc tccttggcat gatggcattt 360
gatcgttatg tggccatctg taaccctctg agatacccca tcatcatgaa caaggtggtg 420
tatgtactgc tgacttctgt atcatggctt tctggtggaa tcaattcaac tgtgcaaaca 480
tcacttgcca tgcgatggcc tttctgtggg aacaatatta ttaatcattt cttatgcgag 540
atcttagctg tcctaaaatt agcttgttct gatatatctg tcaatattgt taccctagca 600
gtgtcaaata ttgctttcct agttcttcct ctgctcgtga tttttttctc ctatatgttc 660
atcctctaca ccatcttgcg aacgaactcg gccacaggaa gacacaaggc attttctaca 720
tgctcagctc acctgactgt ggtgatcata ttttatggta ccatcttctt tatgtatgca 780
aaacctaagt cccaggacct ccttgggaaa gacaacttgc aagctacaga ggggcttgtt 840
tccatgtttt atggggttgt gacccccatg ttaaacccca taatctatag cttgagaaat 900
aaagatgtaa aagctgctat aaaatatttg ctgagcagga aagctattaa ccag 954

<210> 214
<211> 957
<212> DNA
<213> Unknown (H38g63 nucleotide)

<220>
<223> Synthetic construct

<400> 214
atgttcccgg caaattggac atctgtaaaa gtatttttct tcctgggatt ttttcactac 60
cccaaagttc aggtcatcat atttgcggtg tgcttgctga tgtacctgat caccttgctg 120
ggcaacattt ttctgatctc catcaccatt ctagattccc acctgcacac ccctatgtac 180
ctcttcctca gcaatctctc ctttctggac atctggtact cctcttctgc cctctctcca 240
atgctggcaa actttgtttc agggagaaac actatttcat tctcagggtg cgccactcag 300
atgtacctct cccttgccat gggctccact gagtgtgtgc tcctgcccat gatggcatat 360
gaccggtatg tggccatctg caaccccctg agataccctg tcatcatgaa taggagaacc 420
tgtgtgcaga ttgcagctgg ctcctggatg acaggctgtc tcactgccat ggtggaaatg 480
atgtctgtgc tgccactgtc tctctgtggt aatagcatca tcaatcattt cacttgtgaa 540
attctggcca tcttgaaatt ggtttgtgtg gacacctccc tggtgcagtt aatcatgctg 600
gtgatcagtg tacttcttct ccccatgcca atgctactca tttgtatctc ttatgcattt 660
atcctcgcca gtatcctgag aatcagctca gtggaaggtc gaagtaaagc cttttcaacg 720
tgcacagccc acctgatggt ggtagttttg ttctatggga cggctctctc catgcacctg 780
aagccctccg ctgtagattc acaggaaata gacaaattta tggctttggt gtatgccgga 840
caaaccccca tgttgaatcc tatcatctat agtctacgga acaaagaggt gaaagtggcc 900
ttgaaaaaat tgctgattag aaatcatttt aatactgcct tcatttccat cctcaaa 957

<210> 215
<211> 930

<212> DNA
<213> Unknown (H38g64 nucleotide)

<220>
<223> Synthetic construct

<400> 215
atggcagaga tgaacctcac cttggtgacc gagttcctcc ttattgcatt cactgaatat 60
cctgaatggg cactccctct cttcctcttg tttttattta tgtatctcat caccgtattg 120
gggaacttag agatgattat tctgatcctc atggatcacc agctccacgc tccaatgtat 180
ttccttctga gtcacctcgc tttcatggac gtctgctact catctatcac tgtcccccag 240
atgctggcag tgctgctgga gcatggggca gctttatctt acacacgctg tgctgctcag 300
ttctttctgt tcaccttctt tggttccatc gactgctacc tcttggccct catggcctat 360
gaccgctact tggctgtgtg ccagcccctg ctttatgtca ccatcctgac acagcaggcc 420
cgcttgagtc ttgtggctgg ggcttacgtt gctggtctca tcagtgcctt ggtgcggaca 480
gtctcagcct tcactctctc cttctgtgga accagtgaga ttgactttat tttctgtgac 540
ctccctcctc tgttaaagtt gacctgtggg gagagctaca ctcaagaagt gctgattatt 600
atgtttgcca tttttgtcat ccctgcttcc atggtggtga tcttggtgtc ctacctgttt 660
atcatcgtgg ccatcatggg gatccctgct ggaagccagg ccaagacctt ctccacctgc 720
acctcccacc tcactgctgt gtcactcttc tttggtaccc tcatcttcat gtacttgaga 780
ggtaactcag atcagtcttc ggagaagaat cggtagtgt ctgtgcttta cacagaggtc 840
atccccatgt tgaatcccct catctacagc ctgaggaaca aggaagtgaa ggaggccctg 900
agaaaaattc tcaatagagc caagttgtcc 930

<210> 216
<211> 964
<212> DNA
<213> Unknown (H38g65 nucleotide)

<220>
<223> Synthetic construct

<400> 216
atgggcatgg agggtcttct ccagaactcc actaacttcg tcctcacagg cctcatcacc 60
catcctgcct tccccgggct tctctttgca atagtcttct ccatctttgt ggtggctata 120
acagccaact tggtcatgat tctgctcatc cacatggact cccgcctcca cacacccatg 180
tacttcttgc tcagccagct ctccatcatg gataccatct acatctgtat cactgtcccc 240
aagatgctcc aggacctcct gtccaaggac aagaccattt ccttcctggg ctgtgcagtt 300
cagatcttcc tctacctgac cctgattgga ggggaattct tcctgctggg tctcatggcc 360
tatgaccgct atgtggctgt gtgcaacccct ctacggtacc ctctcctcat gaaccgcagg 420
gtttgcttat tcatggtggt cggctcctgg gttggtggtt ccttggatgg gttcatgctg 480
actcctgtca ctatgagttt ccccttctgt agatcccgag agatcaatca ctttttctgt 540
gagatcccag ccgtgctgaa gttgtcttgc acagacacgt cactctatga gaccctgatg 600
tatgcctgct gcgtgctgat cgctgcttat ccctctatct gtcatctctg tctcctacac 660
gcacatcctc ctgactgtcc acaggatgaa ctctgctgag ggccggcgca aagcctttgc 720
tacgtgttcc tcccacatta tggcggtgag cgttttctac ggggcagcct tctacaccaa 780
cgtgctgccc cactcctacc acactccaga gaaagataaa gtggtgtctg ccttctacac 840
catcctcacc cccatgctca acccactcat ctacagcttg aggaataaag atgtggctgc 900
agctctgagg aaagtactag ggagatgtgg ttcctcccag agcatcaggg tggcgactgt 960
gatc 964

<210> 217
<211> 933
<212> DNA
<213> Unknown (H38g66 nucleotide)

<220>
<223> Synthetic construct

<400> 217
atggctcaca caaatgaatc gatggtgtct gagtttgtac ttttgggact ctctaattcc 60

tggggacttc aacttttctt tttcgccatc ttctctatag tctatgtgac atcagtgcta 120
ggcaatgtct taattattgt cattatttct tttgactccc atttgaactc tcctatgtac 180
ttcttgctca gtaatctttc tttcattgat atctgtcagt ctaactttgc cacccccaag 240
atgcttgtag actttttat tgagcgcaag actatctcct ttgagggttg catggcccag 300
atattcgttc ttcacagttt tgttgggagt gagatgatgt tgcttgtagc tatggcatat 360
gacagattta tagccatatg taagcctctg cactacagta caattatgaa ccggaggctc 420
tgtgtaattt ttgtgtctat ttcctgggcg gtgggcgttc ttcattctgt gagccacttg 480
gcttttacag tggacctgcc attctgtggt cccaatgagg tggatagctt cttttgtgac 540
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acgaacagtg gcctgatatc attgagctgt ttcctggctt taattatttc ctacaccatc 660
attttgatcg gtgtccgatg caggtcctcc agtgggtcat ctaaggctct ttctacatta 720
actgcccaca tcacagtggt cattcttttc ttcgggcctt gcatttattt ctatatatgg 780
ccttttagca gacttcctgt ggacaaattt ctttctgtgt tctacactgt ttgtactccc 840
ttgttgaacc ccatcatcta ctctctgagg aatgaagatg ttaaagcagc catgtggaag 900
ctgagaaacc gtcatgtgaa ctcctggaaa aac 933

<210> 218
<211> 936
<212> DNA
<213> Unknown (H38g67 nucleotide)

<220>
<223> Synthetic construct

<400> 218
atggatcaga aaaatggaag ttctttcact ggatttatcc tactgggttt ctctgacagg 60
cctcagctgg agctagtcct ctttgtggtt cttttgatct tctatatctt cactttgctg 120
gggaacaaaa ccatcattgt attatctcac ttggacccac atcttcacac tcctatgtat 180
tttttcttct ccaacctaag ctttttggat ctgtgttaca caaccggcat tgttccacag 240
ctcctggtta atctcagggg agcagacaaa tcaatctcct atggtggttg tgtagttcag 300
ctgtacatct ctctaggctt gggatctaca gaatgcgttc tcttaggagt gatggtattt 360
gaccgctatg cagctgtttg caggcccctc cactacacag tagtcatgca cccttgtctg 420
tatgtgctga tggcttctac ttcatgggtc attggttttg ccaactccct attgcagacg 480
gtgctcatct tgcttttaac actttgtgga agaaataaat tagaacactt tctttgtgag 540
gttcctccat tgctcaagct tgcctgtgtt gacactacta tgaatgaatc tgaactcttc 600
tttgtcagtg tcattattct tcttgtacct gttgcattaa tcatattctc ctatagtcag 660
attgtcaggg cagtcatgag gataaagtta gcaacagggc agagaaaagt gtttgggaca 720
tgtggctccc acctcacagt ggtttccctg ttctacggca cagctatcta tgcttacctc 780
cagcccggca acaactactc tcaggatcag ggcaagttca tctctctctt ctacaccatc 840
attacaccca tgatcaaccc cctcatatat acactgagga acaaggatgt gaaaggagca 900
cttaagaagg tgctctggaa gaactacgac tccaga 936

<210> 219
<211> 939
<212> DNA
<213> Unknown (H38g68 nucleotide)

<220>
<223> Synthetic construct

<400> 219
atgtgctcag ggaatcagac ttctcagaat caaacagcaa gcactgattt caccctcacg 60
ggactctttg ctgagagcaa gcatgctgcc ctcctctaca ccgtgacctt ccttctttc 120
ttgatggccc tcactgggaa tgccctcctc atcctcctca tccactcaga gccccgcctc 180
cacacccccca tgtacttctt catcagccag ctcgcgctca tggatctcat gtacctatgc 240
gtgactgtgc ccaagatgct tgtgggccag gtcactggag atgataccat ttccccgtca 300
ggctgtggga tccagatgtt cttccacctg accctggctg gagctgaggt ttcctcctg 360
gctgccatgg cctatgaccg atatgctgct gtttgcagac ctctccatta cccactgctg 420
atgaaccaga gggtgtgcca gctcctggtg tcagcctgct gggttttggg aatggttgat 480
ggtttgttgc tcacccccat taccatgagc ttccccttt gccagtctag gaaaatcctg 540
agttttttct gtgagactcc tgccctgctg aagctctcct gctctgacgt ctccctctat 600

aagatgctca cgtacctgtg ctgcatcctc atgcttctca cccccatcat ggtcatctcc 660
agctcataca ccctcatcct gcatctcatc cacaggatga attctgccgc cggccgcagg 720
aaggccttgg ccacctgctc ctcccacatg atcatagtgc tgctgctctt cggtgcttcc 780
ttctacacct acatgctccc gagttcctac cacacagctg agcaggacat gatggtgtct 840
gccttttaca ccatcttcac tcctgtgctg aaccccctca tttacagtct ccgcaacaaa 900
gatgtcacca gggctatgag gagcatgatg cagtcaaga 939

<210> 220
<211> 942
<212> DNA
<213> Unknown (H38g69 nucleotide)

<220>
<223> Synthetic construct

<400> 220
atggatgtgg gcaataagtc taccatgtct gaatttgttt tgctggggct ctctaattcc 60
tgggaactac agatgttttt ctttatggtg ttttcattgc tttatgtggc aacaatggtg 120
ggtaacagcc tcatagtcat cacagttata gtggaccctc acctacactc tcctatgtat 180
ttcctgctta ccaatctttc aatcattgat atgtctcttg cttctttcgc caccccaaag 240
atgattacag attacctaac aggtcacaaa accatctctt ttgatggctg ccttacccag 300
atattctttc tccacctttt cactggaact gagatcatct tactcatggc catgtccttt 360
gataggtata ttgcaatatg caagcccctg cactatgctt ctgtcattag tccccaggtg 420
tgtgttgctc tcgtggtggc ttcctggatt atgggagtta tgcattcaat gagtcaggtc 480
atatttgccc tcacgttacc attctgtggt ccctatgagg tagacagctt tttctgtgac 540
cttcctgtgg tgttccagtt ggcttgtgtg gatacttatg ttctgggcct ctttatgatc 600
tcaacaagtg gcataattgc gttgtcctgt tttattgttt tatttaattc atatgttatt 660
gtcctggtta ctgtgaagca tcattcttcc agaggatcat ctaaggccct ttctacttgt 720
acagctcatt tcattgttgt cttcttgttc tttgggccat gcatcttcat ctacatgtgg 780
ccactaagca gctttctcac agacaagatt ctgtctgtgt tttataccat ctttactccc 840
actctgaacc caataatcta tactttgagg aatcaagaag taaagatagc catgaggaaa 900
ctgaaaaata ggtttctaaa ttttaataag gcaatgcctt ca 942

<210> 221
<211> 930
<212> DNA
<213> Unknown (H38g70 nucleotide)

<220>
<223> Synthetic construct

<400> 221
atgggagaca atataacatc catcagagag ttcctcctac tgggatttcc cgttggccca 60
aggattcaga tgctcctctt tggctcttc tccctgttct acgtcttcac cctgctgggg 120
aacgggacca tactggggct catctcactg gactccagac tgcacgcccc catgtacttc 180
ttcctctcac acctggcggt cgtcgacatc gcctacgcct gcaacacggt gccccggatg 240
ctggtgaacc tcctgcatcc agccaagccc atctcctttg cgggccgcat gatgcagacc 300
tttctgtttt ccacttttgc tgtcacagaa tgtctcctcc tggtggtgat gtcctatgat 360
ctgtacgtgg ccatctgcca ccccctccga tatttggcca tcatgacctg gagagtctgc 420
atcaccctcg cggtgacttc ctggaccact ggagtccttt tatccttgat tcatcttgtg 480
ttacttctac ctttaccctt ctgtaggccc cagaaaattt atcacttttt ttgtgaaatc 540
ttggctgttc tcaaacttgc ctgtgcagat acccacatca atgagaacat ggtcttggcc 600
ggagcaattt ctgggctggt gggacccttg tccacaattg tagtttcata tatgtgcatc 660
ctctgtgcta tccttcagat ccaatcaagg gaagttcaga ggaaagcctt ccgcacctgc 720
ttctcccacc tctgtgtgat tggactcgtt tatggcacag ccattatcat gtatgttgga 780
cccagatatg ggaaccccaa ggagcagaag aaatatctcc tgctgtttca cagcctcttt 840
aatcccatgc tcaatcccct tatctgtagt cttaggaact cagaagtgaa gaatactttg 900
aagagagtgc tgggagtaga aagggcttta 930

<210> 222
<211> 969

<212> DNA
<213> Unknown (H38g71 nucleotide)

<220>
<223> Synthetic construct

<400> 222
cacacggagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgctgccggt cctcgctttg ctgtccctgt ccctgtccat gtatctggtc 120
atggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactcccc tccacacccc 180
cgtgtacttc ttcctctcca acctgtgctg ggctgacatc ggtttcacct cgcccacggt 240
tcccaagatg attgtggaca tgcagtcgca tagcagagtc atctctcatg cgggctgcct 300
ggcacagatg tctttcttgg tcctttttgc atgtatagaa gacatgctcc tgactgtgat 360
ggcctatgac agctttgtag ccatctgtca ccctctgcac tacccagtca tcatgaatcc 420
tcacctctgt gtcttcttcg ttttggtgtc ctttttcctt agcctgttgg attcccagct 480
gcacggttgg attgtgttac aattcaccat catcaagaat gtggaaatct ctaattttct 540
ctgtgacccc tctcaacttc tcaaacttgc ctgttctgac agcgtcacca atagcatatt 600
catatatttt gatagtacta tgtttggttt tcttcccatt tcagggatcc ttttgtctta 660
gtataaaatt gtcccctcca ttctaaggat gtcatcgtca gatgggaagt ataaagcctt 720
caccacctgt ggctctcacc tagcagttgt ttgctgattt gatggaacag gcattggcat 780
gtacctgact tcagctctgt caccaccccc caggaatggt gtggcggcgt cagtgatgta 840
cgctgtggtc acccccatgc tgaacctttt catctacagc ctgagaaaca gggacataca 900
aagtgccctg cggaggctgc gcagcagaac agtggaatct catgatctgt tccatccttt 960
ttcttgtgt 969

<210> 223
<211> 945
<212> DNA
<213> Unknown (H38g72 nucleotide)

<220>
<223> Synthetic construct

<400> 223
atggcctgga gcaatcagtc tgcggtaacc gaattcatac tacggggtct gtccagttct 60
ttagaactcc agatttteta cttcctgttt ttctccatag tctatgcagc cactgtgctg 120
gggaaccttc ttattgtggt caccattgca tcagagccac accttcattc ccctacgtac 180
tttctgctgg gcaatctctc cttcattgac atgtccctgg cctcatttgc cacccccaaa 240
atgattgcag acttccttag agaacacaaa gccatctctt ttgaaggctg catgacccag 300
atgttcttcc tacatctctt agggggtgct gagattgtac tgctgatctc catgtccttt 360
gataggtacg tggctatctg taagcctcta cattacctaa caatcatgag ccgaagaatg 420
tgtgttgggc ttgtgatact ttcctggatt gtcggcatct tccatgctct gagtcagtta 480
gcatttacag tgaatctgcc cttctgtgga cccaatgaag tagacagttt cttttgtgac 540
ctccctttgg tgattaaact tgcttgtgtc gacacatata ttctgggggt gttcatgatc 600
tcaaccagtg gcatgattgc cctggtgtgc ttcatcctct tggtgatctc ttacactatc 660
atcctggtca ccgttcggca gcgttcctct ggtggatcct ccaaagccct ctccacgtgc 720
agtgcccact ttactgttgt gacccttttc tttggcccat gcactttcat ttatgtgtgg 780
cctttcacaa atttcccaat agacaaagta ctctcagtat tttataccat atacactccc 840
ctcttgaatc cagtgatcta taccgttagg aataaagatg tcaagtattc catgaggaaa 900
ctaagcagcc atatctttaa atctaggaag actgatcata ctcct 945

<210> 224
<211> 963
<212> DNA
<213> Unknown (H38g73 nucleotide)

<220>
<223> Synthetic construct

<400> 224
atgaaaaagt acatggaaag gactaattga acaactgagt ttgagttgat tctcataagt 60

```
ctatgagtac tcataagttg acaaaaactc ctttttgtca catgcttagt ggtgtatcta     120
gtgaccctct tggggaacag aatacagatc atcccaacac tccttgtttc ccacctatat     180
ttatgccatg gcaatccctc cttcctggat atcgggctta cgtccttttt actccctcta     240
tcctaataaa cttcctatca gagggaaaaa aactctcttt cacagattgt attatacaaa     300
tgtctatctt ctattccatg gggtccacgg agtgtgtgct cctagcagtg atggcatatg     360
ataactgtgt ggtcatcagc aaattcctga gataccctct catcataaat aaggtgaata     420
aaataaaaaa ggtgctttgt gttttcatgg ctactgtctc ttatgaatta ggatttctca     480
acagacaaaa tgtattaata gttacatatg aatgcacttt tgtggaaaac acatcattaa     540
tcatttttat aaaatattac agttaatggc tctggcttgc atagatattt ccttgaatga     600
gaatataata atattgggca aagtaaactt ttcatttact ttattactac catttcagtt     660
ctttatattc agtttttat attttcacca tctatgctgt attgaaatca attcagctga      720
aggaaggaaa aaggtctctt ccacctgttc agcccacata acagtggtga ttgtgtttca     780
ccggacaatc ctcttcatgt acataaagtc aacatctaat ggcactactt cagagaaact     840
ggttgacctg ttctgcgggg tagtaatgct catgctcaat cttatcatct atagcctggg     900
gaatatggag gtgcttgggg ttatgaagaa attgatcagt atgagtagac cctggtgctg     960
gaa                                                                   963
```

<210> 225
<211> 974
<212> DNA
<213> Unknown (H38g74 nucleotide)

<220>
<223> Synthetic construct

<400> 225

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cacacggagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag      60
gatccagaac tgcagccggt cctcgctttg ctgtccctgt ccctgtccat gtccatgtat     120
ctggtcacgg tgctgaggaa cctgctcagc atcctggctg tcagctctga ctcccaactc     180
cacacccccca tgtacttctt cctctccaac ctgtgctggg ctgacatcgg tttcacctcg    240
cccatggttc ccaagatgat catggacatg cagtcgcata gcagagtcat ctctcatgcg     300
ggctgcctga cacggatgtc tttcttggtc ctttttgcat gtatagaaga catgctcctg     360
actgtgatgg cctatgactg ctttgtagcc atctgtcgcc ctctgcacta cccagtcatc     420
atgaatcctc acctctgtgt cttcttcgtt ttggtgtcct ttttccttag cctgttggat     480
tcccagctgc acagttagat tgtgttacaa ttcactttct tcaataatgt ggaaattgct     540
aattttgtct atgagccatc tcaacttctc aaccttgact gttctgacac cgtcatcaat     600
agcgtattta tatatttcga tagtactgtt tggttttctt cccatttcag ggatcctttg     660
tcttagtata aaattgtccc ctccattcta aggatgtcat cgtcagatgg gaagtataaa     720
gccttcgcca cctgtggctc tcacctagca gttgtttgct gatttgatgg aacaggcatt     780
ggcatgtacc tgacttcagc tgtgtcacca ccccccagga atggtgtggc ggcgtcagtg     840
atgtacgctg tggtcacccc catgctgaac cttttcatct acagcctgag aaacagggac     900
attcaaagtg ccctgcagag gctgagtagc agaacagtgg aatctcatga tctgttccat     960
ccttttctt gtgt                                                        974
```

<210> 226
<211> 957
<212> DNA
<213> Unknown (H38g75 nucleotide)

<220>
<223> Synthetic construct

<400> 226

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atgggtaact ggactgcagc ggtgactgag tttgttctgc tggggttttc cctgagcagg      60
gaggtggagc tgctgctcct ggtgctcctg ctgcccacgt tcctgctgac tcttctgggg     120
aacctgctca tcatctccac tgtgctgtcc tgctcccgcc tccacacccc catgtacttc     180
ttcttgtgca acctctctat cctggacatc ctcttcacct cagtcatctc tccaaaagtg     240
ttggccaact taggatctag ggataaaacc atctcctttg ccggatgtat cacccagtgc     300
tatttctact ttttcttggg cacagttgag ttcctcctgc tgacggtcat gtcctatgac     360
cgttatgcca ccatctgctg ccccctgcgg tacaccacca tcatgagacc ttctgtctgc     420
attgggaccg ttgtattctc ttgggtggga ggcttcctgt ctgtgctctt tccaaccatc     480
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ctcatctccc agctgccctt ctgtggctcc aatatcatta accacttctt ctgtgacagt 540
ggacccttgc tggccctggc ctgtgcagac accactgcca tcgagctgat ggattttatg 600
ctttcttcca tggtcatcct ctgctgcata gtcctcgtgg cctattccta tacgtacatc 660
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gcttcccacc tgaccatagt catcattcct agtggcatca ctgtgtttat ctatgtgact 780
ccctcccaga aagaatatct ggagatcaac aagatccctt tggttctgag cagtgtggtg 840
actccattcc tcaacccctt tatatatact ctgaggaatg acacagtgca gggagtcctc 900
agggatgtgt gggtcagggt tcgaggagtt tttgaaaaga ggatgagggc agtgctg 957

<210> 227
<211> 939
<212> DNA
<213> Unknown (H38g76 nucleotide)

<220>
<223> Synthetic construct

<400> 227
atggaaactg caaattacac caaggtgaca gaatttgttc tcactggcct atcccagact 60
cgggaggtcc aactagtcct atttgttata tttctatcct tctatttgtt catcctacca 120
ggaaatatcc ttatcatttg caccatcagg ctagaccctc atctgacttc tcctatgtat 180
ttcctgttgg ctaatctggc cctccttgat atttggtact cttccattac agcccctaaa 240
atgctcatag acttctttgt ggagaggaag ataatttcct ttggtggatg cattgcacag 300
ctcttcttct tacactttgt tggggcttcg gagatgttct tgctcatagt gatggcctat 360
gaccgctatg ctgctatctg ccgacccctc cactatgcta ccatcatgaa tcgacgtctc 420
tgctgtatcc tggtggctct ctcctggatg gggggcttca ttcattctat aatacaggtg 480
gctctcattg ttcgacttcc tttctgtggg cccaatgagt tagacagtta cttctgtgac 540
atcacacagg ttgtccggat tgcctgtgcc aacaccttcc cagaggagtt agtgatgatc 600
tgtagtagtg gtctgatctc tgtggtgtgt ttcattgctc tgttaatgtc ctatgccttc 660
cttctggcct tgctcaagaa acattcaggc tcagatgaga ataccaacag ggccatgtcc 720
acctgctatt cccacattac cattgtggtg ctaatgtttg ggccatccat ctacatttat 780
gctcgcccat ttgactcatt ttccctagat aaagtggtgt ctgtgtttca tactgtaata 840
ttccctttac ttaatcccat tatttacaca ttgagaaaca aggaagtaaa ggcagccatg 900
aggaaggtgg tcaccaaata tattttgtgt gaagagaag 939

<210> 228
<211> 940
<212> DNA
<213> Unknown (H38g77 nucleotide)

<220>
<223> Synthetic construct

<400> 228
atggaaagtc aaaggaacat ataaaaattc atactcatga gcctttcctc tatccagaac 60
atacaaatat ttgtttttgt gttcttattt tgtaatgttg ccatcttggt gggaaacttt 120
ctgatcctta tctctatttg atgtagtcct ctttttaacc aaccaatgca ctatttcttc 180
aggctatatg aatatctact atacctcctg tgtcacaccc aaaataattg gtgatctagt 240
agtgggaaga ataaacatct cctatgatag gagtctttcc catgcacttc tttggaatca 300
ttgaaatctt catccttaca gtcatggctt ttgatcacta tgttgccatc tgcaaacctc 360
cccgctacct aattatcatg aataggacaa aatacaatac tctaatctcg gttgcttggc 420
tgttggggct ttccattctt tgtttcagtt ttctatgaaa atctggttgc ctttctgtgg 480
ctccaacaaa gttgatgact aatattaaga tatttttcct ttactgaaag tcgcttgtac 540
tgatacctgc atcactggtg tcctcgtggt tgccaattct ggaatgtttg ccttggtaac 600
cttgttctgt cgtttggctc ttatgtcatt atactattcc ccttaaaaaa tcattcagta 660
gagggaagat gcaaagccct ctctacctgt ggatctcata tcaccatggt aatctttttc 720
ttcgaacctt caatctttgc ctaccttaga ccttctcact tttcctgagg acaaaatatc 780
tgctctgttt tacactatta ttgctccaat gttcaaccac ctaatctata acctgagaaa 840
tacagagatg aaaaaggcca tgagaaaagt ttggtaccaa atatcatttt cagaagaaaa 900
acagctgatt tgtcctactt agtgtactaa agaactttat 940

<210> 229
<211> 912
<212> DNA
<213> Unknown (H38g78 nucleotide)

<220>
<223> Synthetic construct

<400> 229
atgagaaatg gcacagtaat cacagaattc atcctgctag gctttcctgt tatccaaggc 60
ctacaaacac ctctctttat tgcaatcttt ctcacctaca tattaaccct tgcaggcaat 120
gggcttatta ttgccactgt gtgggctgag cccaggctac aaattccaat gtacttcttc 180
ctttgtaact tgtctttctt agaaatctgg tacaccacca cagtcatccc caaactgcta 240
ggaacctttg tagtggcaag aacagtaatc tgcatgtcct gctgcctgct gcaggccttc 300
ttccacttct tcgtgggcac caccgagttc ttgatcctca ctatcatgtc ttttgaccgc 360
tacctcacca tctgcaatcc ccttcaccac cccaccatca tgaccagcaa actctgcctg 420
cagctggccc tgagctcctg ggtggtgggc ttcaccattg tcttttgtca gacgatgctg 480
ctcatccagt tgccattctg tggcaataat gttatcagtc atttctactg tgatgttggg 540
cccagtttga aagccgcctg catagacacc agcatttttgg aactcctggg cgtcatagca 600
accatccttg tgatcccagg gtcacttctc tttaatatga tttcttatat ctacattctg 660
tccgcaatcc tacgaattcc ttcagccact ggccaccaaa agactttctc tacctgtgcc 720
tcgcacctga cagttgtctc cctgctctac ggggctgttc tgttcatgta cctaagaccc 780
acagcacact cctcctttaa gattaataag gtggtgtctg tgctaaatac tatcctcacc 840
ccccttctga atccctttat ttatactatt agaaacaagg aggtgaaggg agccttaaga 900
aaggcaatga ct 912

<210> 230
<211> 963
<212> DNA
<213> Unknown (H38g79 nucleotide)

<220>
<223> Synthetic construct

<400> 230
atgacaattc ttcttaatag cagcctccaa agagccactt tcttcctgac gggcttccaa 60
ggtctagaag gtctccatgg ctggatctct attccccttct gcttcatcta cctgacagtt 120
atcttgggga acctcaccat tctccacgtc atttgtactg atgccactct ccatggaccc 180
atgtactatt tcttgggcat gctagctgtc acagacttag gcctttgcct ttccacactg 240
cccactgtgc tgggcatttt ctggtttgat accagagaga ttggcatccc tgcctgtttc 300
actcagctct tcttcatcca caccttgtct tcaatggagt catcagttct gttatccatg 360
tccattgacc gctacgtggc cgtctgcaac ccactgcatg actccaccgt cctgacacct 420
gcatgtattg tcaagatggg gctaagctca gtgcttagaa gtgctctcct catcctcccc 480
ttgccattcc tcctgaagcg cttccaatac tgccactccc atgtgctggc tcatgcttat 540
tgtcttcacc tggagatcat gaagctggcc tgctctagca tcattgtcaa tcacatctat 600
gggctctttg ttgtggcctg caccgtgggt gtggactcac tgctcatctt tctctcatac 660
gccctcatcc ttcgcaccgt gctcagcatt gcctcccacc aggagcgact ccgagccctc 720
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tctcttgtgc atcgctttgg tgaacatctg ccccgcgttg tacacctctt catgtcctat 840
gtgtatctgc tggtaccacc ccttatgaac cccatcatct acagcatcaa gaccaagcaa 900
attcgccagc gcatcattaa gaagtttcag tttataaagt cacttaggtg tttttggaag 960
gat 963

<210> 231
<211> 968
<212> DNA
<213> Unknown (H38g80 nucleotide)

<220>
<223> Synthetic construct

<400> 231
atggggaacc acaccaccgt caccgagttt gtcctgctgg ggctctcaga gacctgtgag 60
ctgcagatgc tcatcttcct ggggctcctc ctgacctacc tcctcacact gctggggaat 120
ctggtcatcg tggtcatcac cctcatggac aggcgcctcc acaccaccat gtactacttc 180
ctccgcaact ttgctgtccc ggagatctgg ttcacctcgg tcatctttcc caaggtgctg 240
gccaacatcc tcacaggata caagaccatt ccctcccagg ctgcttcctg caaagtttgc 300
tctatttttt cttgggcacc acagagttct tcctcctggc ggtgatgtcc tttgacaggt 360
acgtggccgt atgtaaccct ttgcattatg ccaccatcat gagcaaaagg gtctgtgtcc 420
agctagtcct ctgttagtgg atgacaggat tccttctcat cattattcca agttttcttg 480
tccttcagca gccattctgt ggccccaaca tcattaacca tttcttctgt gacaactttc 540
ccctcttgaa actcatttgt gcagacatga ctctgataga gctcctgggt tttgttatag 600
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acgccattct gcacatcccc tcagccaaag agaagcagaa agccttctcc gcctgctcct 720
cccacatcat tgtcgtgtct ctcttctatg gcagctgcat cttcatgtac attcagtcag 780
gcaagagtga ccagaaggaa gacaggaaca aggtggcggc attgcttaac accgtggtga 840
ccctgatgct caacccccttc atctacaccc tgaggaacaa acaggtgaaa caggtgttta 900
ggcagcaggt gagcaaactc ctcatataaa gctgtgtaaa aaaaaaactg aagctcagca 960
tccccaga 968

<210> 232
<211> 949
<212> DNA
<213> Unknown (H38g81 nucleotide)

<220>
<223> Synthetic construct

<400> 232
gaaataaaga tagcaaacaa cacagtagtg acagaattta tcctccttgg tctgactcag 60
tctcaagata ttcagctctt ggtctttgtg ctgatcttaa ttttctacct tatcatcctc 120
cctggaaatt tcctcatcat tttcaccata aagtcagatc ctgggctcac agcacccctc 180
tatttctttc tgggcaactt ggccttcctg gatgcatcct actccttcat tgtggctccc 240
cggatgttgg tggacttcct ctctgcgaag aatgtaatct cctacagagg ctgcatcact 300
cagctctttt tcttgcactt ccttggagga ggagagggat tactccttgt gatgtagcct 360
ttgaccgcta catcgccatc tgccggcctc tgcactattc tactctcatg aaccccagag 420
cttgctatgc aatgatgttg gctctgtggc ttgggggttt tgtccactcc attatccagg 480
tggtcctcat cctccgcttg ccttttttgtg gcccaaacca gctggacaac ttcttctgtg 540
atgtcccaca ggtcatcaag ctggcttgca ccgacacgtt tgtggtggag cttctgatgg 600
tcttcaacag tggcctgatg acactcctgt ctttctgggg cttctggctt cctatgcagt 660
catcctgtgc catgttcgta aggcagcttc tgaattgaag aacaaggcca tgtccacgtg 720
caccactcat gtcattatta tacttcttat gtttggacct gctatcttca tctacatgca 780
ccccttcagg gccttaccag ctgacaaggt ggtttctttc tttcacacag tgatctttcc 840
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gttattgagt cgacatgtag tctgtcaagt ggactttata ataagaaac 949

<210> 233
<211> 857
<212> DNA
<213> Unknown (H38g82 nucleotide)

<220>
<223> Synthetic construct

<400> 233
gtcatacgaa accagacaat ggtaactgaa ttcacccggt ctcccttcct gctgtccagg 60
agcttcagat ttggctatgt gtccttctct ggctggttca tatgctcacc ataacaggaa 120
acctttttcgt catttttctta acgtggacag ataattgtct ccaaacccca atggacttgt 180
tccttagaaa aaagtcatat cgttctctgg ctgcatcacc caaatatatt tctacttctt 240
tctagggaca gtggcgttta tccccttggc agtgacatcc ttcaaacact gcatggcaac 300
ctgtgacccc ctgtgcagca ccatcattgc aaaaagcagg gcctgcctcc tgctggctct 360
gggatgctgg atgggaacct tcctggctgt gttgcgcctg actattgtgg tgtccaggtt 420

gccagactgt actgaaaaaa ttagtccctt cttctgtgac attgcctctt tactgcaggt 480
ggcctgtatt gatattcatt tcattgagat gataagcttc ctttgatcat ctcttatggt 540
cctgacctcg ctggtgctta atgccacatc ctacgcctac atcatttctc cctcctgtgc 600
atcccctcag cccaaggatg tcaggaggcc ttttccacct gtgcttcaca catcaccatc 660
atctttattg cctgccgaaa ctccatctcc acgtgtgtga ggcctaaccc gaggtattag 720
ctggattttg acaaagtgac agctatcctc actatagtag tgacttcttt tctgaatccc 780
cgcatttata gcttgaggta aaggaagtat gaagggagtc aatttgcaca atactgtcac 840
cacattccaa aggaaca 857

<210> 234
<211> 921
<212> DNA
<213> Unknown (H38g83 nucleotide)

<220>
<223> Synthetic construct

<400> 234
atggaaagcg agaacagaac agtgataaga gaattcatcc tccttggtct gacccagtct 60
caagatattc agctcctggt ctttgtgcta gttttaatat tctacttcat catcctccct 120
ggaaattttc tcattatttt caccataaag tcagaccctg ggctcacagc ccccctctat 180
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ctctttttct tgcacttcct tggaggaggg gagggattac tccttgttgt gatggccttt 360
gaccgctaca tcgccatctg ccggcctctg cactatccta ctgtcatgaa ccctagaacc 420
tgctatgcaa tgatgttggc tctgtggctt gggggttttg tccactccat tatccaggtg 480
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gtcccacagg tcatcaagct ggcctgcacc gacacatttg tggtggagct tctgatggtc 600
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attctttgtc gcatacgagg gtcttcttct gaggcaaaaa acaaggccat gtccacgtgc 720
atcacccata tcattgttat attcttcatg tttggacctg gcatcttcat ctacacgcgc 780
cccttcaggg ctttcccagc tgacaaggtg gtttctctct tccacacagt gatttttcct 840
ttgttgaatc ctgtcattta taccettcgc aaccaggaag tgaaagcttc catgaaaaag 900
gtgtttaata agcacatagc c 921

<210> 235
<211> 927
<212> DNA
<213> Unknown (H38g84 nucleotide)

<220>
<223> Synthetic construct

<400> 235
atggaaaatc aaaacaatgt gactgaattc attcttctgg gtctcacaga gaacctggag 60
ctgtggaaaa tattttctgc tgtgtttctt gtcatgtatg tagccacagt gctggaaaat 120
ctacttattg tggtaactat tatcacaagt cagagtctga ggtcacctat gtattttttt 180
cttaccttct tgtccctttt ggatgtcatg ttctcatctg tcgttgcccc caaggtgatt 240
gtagacaccc tctccaagag cactaccatc tctctcaaag gctgcctcac ccagctgttt 300
gtggagcatt tctttggtgg tgtggggatc atcctcctca ctgtgatggc ctatgaccgc 360
tacgtggcca tctgtaagcc cctgcactac acgatcatca tgagtccacg ggtgtgctgc 420
ctaatggtag gaggggcttg ggtgggggga tttatgcacg caatgataca acttctcttc 480
atgtatcaaa taccettctg tggtcctaat atcatagatc actttatatg tgatttgttt 540
cagttgttga cacttgcctg cacggacacc cacatcctgg gcctcttagt taccctcaac 600
agtgggatga tgtgtgtggc catctttctt atcttaattg cgtcctacac ggtcatccta 660
tgctccctga agtcttacag ctctaaaggg cggcacaaag ccctctctac ctgcagctcc 720
cacctcacgg tggttgtatt gttctttgtc ccctgtattt tcttgtacat gaggcctgtg 780
gtcactcacc ccatagacaa ggcaatggct gtgtcagact caatcatcac acccatgtta 840
aatcccttga tctatacact gaggaatgca gaggtgaaaa gtgccatgaa gaaactctgg 900
atgaaatggg aggctttggc tgggaaa 927

<220>
<223> Synthetic construct

<400> 456
atggaaccaa gaaaccaaac cagtgcatct caattcatcc tcctgggact ctcagaaaag 60
ccagagcagg agacgcttct cttttccctg ttcttctgca tgtacctggt catggtcgtg 120
gggaacctgc tcatcatcct ggccatcagc atagactccc acctccacac ccccatgtac 180
ttcttcctgg ccaacctgtc cctggttgat ttctgtctgg ccaccaacac catccctaag 240
atgctggtga gccttcaaac cgggagcaag gccatctctt atccctgctg cctgatccag 300
atgtacttct tccatttctt tggcatcgtg gacagcgtca taatcgccat gatggcttat 360
gaccggttcg tggccatctg ccacccattg cactacgcca agatcatgag cctacgcctc 420
tgtcgcctgc tggtcggcgc cctctgggcg ttttcctgct tcatctcact cactcacatc 480
ctcctgatgg cccgtctcgt tttctgcggc agccatgagg tgcctcacta cttctgcgac 540
ctcactccca tcctccgact ttcgtgcacg gacacctctg tgaataggat cttcatcctc 600
attgtggcag ggatggtgat agccacgccc tttgtctgca tcctggcctc ctatgctcgc 660
atccttgtgg ccatcatgaa ggtcccctct gcaggcggca ggaagaaagc cttctccacc 720
tgcagctccc acctgtctgt ggttgctctc ttctatggga ccaccattgg cgtctatctg 780
tgtccctcct cggtcctcac cactgtgaag gagaaagctt ctgcggtgat gtacacagca 840
gtcaccccca tgctgaatcc cttcatctac agcttgagga acagagacct gaaaggggct 900
ctcaggaagc tggtcaacag aaagatcacc tcatcttcc 939

<210> 457
<211> 295
<212> DNA
<213> Unknown (H38g306 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(295)
<223> n = A,T,C or G

<400> 457
atgtcagcct ccagtatcac ctcaacacat ccaacttcct tcttgttgat ggggattcca 60
ggcctggagc acctgcacat ctggatctcc atccccttct cagcatatac actggccctg 120
cttggaaact gcactctcct tctcatcatc caggctgatg cagccctcca tgaacccatg 180
tacctctttc tggccatgtt ggcagccatc gaccagctct ctatctcctc agcactgccc 240
ccgggacaga cggtgattct ggttcacgga tcngaagaat aaaccctttg ccggg 295

<210> 458
<211> 960
<212> DNA
<213> Unknown (H38g307 nucleotide)

<220>
<223> Synthetic construct

<400> 458
atgccatctg cctctgccat gatcattttc aacctgagca gttacaatcc aggacccttc 60
attctggtag ggatcccagg cctggagcaa ttccatgtgt ggattggaat tcccttctgt 120
atcatctaca ttgtagctgt tgtgggaaac tgcatccttc tctacctcat tgtggtggag 180
catagtcttc atgaacccat gttcttcttt ctctccatgc tggccatgac tgacctcatc 240
ttgtccacag ctggtgtgcc taaagcactc agtatctttt ggctaggggc tcgcgaaatc 300
acattcccag gatgccttac acaaatgttc ttccttcact ataactttgt cctggattca 360
gccattctga tggccatggc atttgatcac tatgtagcta tctgttctcc cttgagatat 420
accaccatct tgactcccaa gaccatcatc aagagtgcta tgggcatctc ctttcgaagc 480
ttctgcatca tcctgccaga tgtattcttg ctgacatgcc tgcctttctg caggacacgc 540
atcatacccc acacatactg tgagcatata ggtgttgccc agctcgcctg tgctgatatc 600
tccatcaact tctggtatgg cttttgtgtt cccatcatga cggtcatctc agatgtgatt 660

ctcattgctg tttcctacgc acacatcctc tgtgctgtct ttggccttcc ctcccaagag 720
gcctgccaga aagccctcgg cacttgtggt tctcatgtct gtgtcatcct catgttttat 780
acacctgcct ttttctccat cctcgcccat cgctttggac acaatgtctc tcgcaccttc 840
cacatcatgt ttgccaatct ctacattgtt atcccacctg cactcaaccc catggtttac 900
ggagtgaaga ccaagcagat cagagataag gttatacttt tgttttctaa gggtacagga 960

<210> 459
<211> 936
<212> DNA
<213> Unknown (H38g308 nucleotide)

<220>
<223> Synthetic construct

<400> 459
atgagcggga caaaccagtc gagtgtctcc gagttcctcc tcctgggact ctccaggcag 60
ccccagcagc agcatctcct ctttgtgttc ttcctcagca tgtacctggc cactgtcctg 120
gggaacctgc tcatcatcct gtccgtaagc atagactcct gcctgcacac ccccatgtac 180
ttcttcctca gcaacctgtc ttttgtggac atctgcttct ccttcaccac cgtccccaag 240
atgctggcca atcacatact cgagactcag accatctcct tctgtggctg tctcacacag 300
atgtatttcg ttttcatgtt cgtggacatg gacaatttcc tcctagctgt gatggcctat 360
gaccactttg tcgccgtgtg ccacccctta cattacacag caaagatgac ccatcagctc 420
tgtgccctgc tggttgctgg attatgggtg gttgccaacc tgaatgtcct tctgcacacc 480
ctgctgatgg ctccactctc attctgtgca gacaatgcca tcactcactt cttctgcgat 540
gtgactcccc tactgaaact ctcctgctca gacacacacc tcaatgaggt cataatcctt 600
agtgagggtg ccctggtcat gatcacccca tttctttgca tcctggcttc ttatatgcac 660
atcacctgca ctgtcctgaa ggtcccatcc acaaagggaa ggtggaaagc cttctccacc 720
tgtggttctc acctggctgt ggttctcctc ttctacagca ccatcattgc tgtgtatttt 780
aaccctctgt cctcccactc agctgagaaa gacactatgg ctactgtgtt gtatacagta 840
gtgactccca tgctaaaccc tttcatctac agcctgagga acaggtactt gaaaggggct 900
ctgaaaaaag tagttggcag ggtggtgttt tctgtc 936

<210> 460
<211> 762
<212> DNA
<213> Unknown (H38g309 nucleotide)

<220>
<223> Synthetic construct

<400> 460
atgtacttct tcctgcgcca actctcagtg gtggagctct tctacaccac tgacatcgtg 60
cccaggaccc tggccaatct gggctccccg catccccagg ccatctcttt ccagggctgt 120
gcagcccata tgtacgtctt cattgtcctg ggcatctcgg agtgctgcct gctcactgcc 180
atggcctatg accgatatgt tgccatctgc cagcccctac gctattccac cctcttgagc 240
ccacgggcct gcatggccat ggtgggtacc tcctggctca caggcatcat cacggccacc 300
acccatgcct ccctcatctt ctctctacct tttcgcagcc acccgatcat cccgcacttt 360
ctctgtgaca tcctgccagt actgaggctg gcaagtgctg ggaagcacag gagcgagatc 420
tccgtgatga cagccaccat agtcttcatt atgatcccct tctctctgat tgtcacctct 480
tacatccgca tcctgggtgc catcctagca atggcctcca cccagagccg ccgcaaggtc 540
ttctccacct gctcctccca tctgctcgtg gtctctctct tctttggaac agccagcatc 600
acctacatcc ggccgcaggc aggctcctct gttaccacag accgcgtcct cagtctcttc 660
tacacagtca tcacacccat gctcaacccc atcatctaca cccttcggaa caaggacgtg 720
aggagggccc tgcgacactt ggtgaagagg cagcgcccct ca 762

<210> 461
<211> 998
<212> DNA
<213> Unknown (H38g310 nucleotide)

<220>

<223> Synthetic construct

<400> 461
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc ccccatgtac 180
tttctactgg tcagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcat tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagttatg tggccctatt aagcccctcc actatctgac cattatgagc ccaagaatgt 420
gcctttcatt tctggctgtt gcctggaccc ttgttgtcag tcactccctg ttccaactgg 480
catttcttgt taatttaccc ttctgtggcc ctaatgtgtt ggacagcttc tactgtgacc 540
ttcctcagct tctcagacta gcctgtaccg acacctacag attgcagttc atggtcactg 600
ttaacagtgg gtttatctgt gtgggtactt tcttcatact tctaatctcc tacgtcttca 660
tcctgtttac tgtttggaaa cattcctcag gtggttcatc caaggcccctt tccactcttt 720
cagctcacag cacagcggtc cttttgttct ttggtccacc catgtttgtg tatacatggc 780
cacaccctaa ttcacagatg gacaagtttc tggctatttt tgatgcagtt ctcactcctt 840
ttctgaatcc agttgtctat acattcagga ataaggagat gaaggcagca ataaagagag 900
tatgcaaaca gctagtgatt tacaagaaga tctcataaat gatacaataa gcccttctcg 960
ttaaacatga tatggcttta tgtttctttc tttgatat 998

<210> 462
<211> 933
<212> DNA
<213> Unknown (H38g311 nucleotide)

<220>
<223> Synthetic construct

<400> 462
atggaagagt acaacacatc ctctacagac ttcactttca tggggctgtt caacagaaag 60
gaaacctcag gtcttatttt tgccatcatc tctatcatct tcttcaccgc actgatggcc 120
aatggggtta tgatcttcct gatccaaaca gatttgcgcc ttcatacacc catgtacttc 180
ctcctcagcc acctttcctt aattgacatg atgtatattt ccactattgt gcctaagatg 240
ctggttaatt acctgctgga tcaaaggacc atttcctttg tggggtgcac agctcaacac 300
ttcctctacc ttacccttgt gggagctgaa ttcttcctgc tgggcctcat ggcctatgac 360
cgctatgtgg ccatttgcaa ccctctgaga taccctgtcc tcatgagccg ccgggtctgt 420
tggatgatta tagcaggttc ctggtttggg ggctctttgg atggcttcct cctaaccccc 480
atcaccatga gctttccctt ctgcaattcc cgggagatta accacttctt ctgcgaggca 540
ccagcagtcc tgaagttggc atgtgcagac acagccctct acgagacagt gatgtatgtg 600
tgctgtgttt tgatgctgct gattcctttc tctgtagtcc ttgcttccta tgcccgaatc 660
ctgactacag ttcagtgcat gagctcagtg gagggcagga agaaggcatt tgccacttgc 720
tcatcccaca tgactgtggt gtccttgttc tacggggctg ccatgtacac ctacatgctg 780
ccacattctt accacaagcc agcccaggac aaagtcctct ctgtgtttta caccattctc 840
acacccatgc tgaacccccct catctacagc cttagaaaca aggatgtgac tggagctctg 900
aagagggcct tggggaggtt caagggtcct caa 933

<210> 463
<211> 883
<212> DNA
<213> Unknown (H38g312 nucleotide)

<220>
<223> Synthetic construct

<400> 463
atccaatgca agggctaata gaagtgaatt aagacattct ctgtaactcc aatattaaat 60
ggaaaccggg aaatagccag attcctctcc aacctgtcct tggctggcat cggtttcccc 120
tccaccatag tctccaagat gattgtggac atccagtctc acagcagagt catctcctat 180
gcgggctgcc tgactcaggt atctcttttt gccgttttg gatgcatgga agacatgctt 240
ctgagtgtga tggcttatga ccggtttgtg gacatctgtc accctctgga ttatccagtc 300

atcatgaacc catgtttctg tggcttccta gttttgttgt cttttttct cagtctttta 360
gactcccagc tgcacaattg gattgcctta caaattacct gcttcaagga tgtggaaatt 420
cccaatttct tctgtgaccc ttctcaactc ccccaccctt gcctgttgtg acaccttcac 480
caatgacata gtcatgtatt tccttgctgc catatttggt tttcttccca tttcggggcc 540
ttttctctta ctataaaatt gtttcctcca ttctgagggt ttcatcatca ggtgggaagt 600
ataaagcctt ctccacctgt ggctctcacc tgtcagttgt ttgcttattt tatggaacag 660
gctttggagg ggacctcagt tcagacatgt cctcttatcc cagaaaaggt gcagtggcct 720
cagtgatgta cacggtggtt actcccatgc tgaacccatt catttacagc ctaacaggga 780
aattaaaagt gccctgcggc agctgcactg cagaatagtc taatctcatt ttcttattat 840
ctgttccatt ccttccgtag tgtgagttag aaaaggcagc aag 883

<210> 464
<211> 942
<212> DNA
<213> Unknown (H38g313 nucleotide)

<220>
<223> Synthetic construct

<400> 464
atgaccctgg gatccctggg aaacagcagc agcagcgttt ctgctacctt cctgctgagt 60
ggcatccctg ggctggagcg catgcacatc tggatctcca tcccactgtg cttcatgtat 120
ctggtttcca tcccgggcaa ctgcacaatt ctttttatca ttaaaacaga gcgctcactt 180
catgaaccta tgtatctctt cctgtccatg ctggctctga ttgacctggg tctctccctt 240
tgcactctcc ctacagtcct gggcatcttt tgggttggag cacgagaaat tagccatgat 300
gcctgctttg ctcagctctt tttcattcac tgcttctcct tcctcgagtc ctctgtgcta 360
ctgtctatgg cctttgaccg ctttgtggct atctgccacc ccttgcacta tgtttccatt 420
ctcaccaaca cagtcattgg caggattggc ctggtctctc tgggtcgtag tgtagcactc 480
atttttccat taccttttat gctcaaaaga ttcccctatt gtggctcccc agttctctca 540
cattcttatt gtctccacca agaagtgatg aaattggcct gtgccgacat gaaggccaac 600
agcatctacg gcatgtttgt catcgtctct acagtgggta tagactcact gctcatcctc 660
ttctcttatg ctctgatcct gcgcaccgtg ctgtccatcg cctccagggc tgagagattc 720
aaggccctta acacctgtgt ttcccacatc tgtgctgtgc tgctcttcta cactcccatg 780
attggcctct ctgtcatcca tcgctttgga aagcaggcac cccacctggt ccaggtggtc 840
atgggtttca tgtatcttct ctttcctcct gtgatgaatc ccattgtcta cagtgtgaag 900
accaaacaga tccgggatcg agtgacgcat gccttttgtt ac 942

<210> 465
<211> 990
<212> DNA
<213> Unknown (H38g314 nucleotide)

<220>
<223> Synthetic construct

<400> 465
atgggactct tcagacaatc caaacatcca atggccaata tcacctggat ggccaaccac 60
actggatggt cggatttcat cctgttggga ctcttcagac aatccaaaca tccagcacta 120
ctttgtgtgg tcatttttgt ggttttcctg atggcgttgt ctggaaatgc tgtcctgatc 180
cttctgatac actgtgacgc ccacctccac acccccatgt actttttcat cagtcaattg 240
tctctcatgg acatggcgta catttctgtc actgtgccca agatgctcct ggaccaggtc 300
atgggtgtga ataagatctc agccccctgag tgtgggatgc agatgttctt ctacgtgaca 360
ctagcaggtt cagaattttt ccttctagcc accatggcct atgaccgcta cgtggccatc 420
tgccatcctc tccgttaccc tgtcctcatg aaccataggg tgtgtctctt cctgtcatca 480
ggctgctggt tcctgggctc agtggatggc ttcacattca ctcccatcac catgaccttc 540
cccttccgtg gatcccggga gattcatcat ttcttctgtg aagttcctgc tgtattgaat 600
ctctcctgct cagacacctc actctatgag attttcatgt acttgtgctg tgtcctcatg 660
ctcctcatcc ctgtggtgat catttcaagc tcctatttac tcatcctcct caccatccac 720
gggatgaact cagcagaggg ccggaaaaag gcctttgcca cctgctcctc ccacctgact 780
gtggtcatcc tcttctatgg ggctgccatc tacacctaca tgctccccag ctcctaccac 840
acccctgaga aggacatgat ggtatctgtc ttctatacca tcctcactcc agtggtgaac 900

cctttaatct atagtcttag gaataaggat gtcatggggg ctctgaagaa aatgttaaca 960
gtggaacctg cctttcaaaa agctatggag 990

<210> 466
<211> 591
<212> DNA
<213> Unknown (H38g315 nucleotide)

<220>
<223> Synthetic construct

<400> 466
gctgccatgg cttaagaccg gtacatagca atctgtaacc cgctgctcta tacagtgatt 60
atgtccaaga aggtttgttg ccagcttgca attggagcat tttggggggg cactatgagc 120
tcaattattc ataccacgaa cactttccat ctgtcattct gctccagaga tattaaccat 180
ttcttttgtg atatctcccc actcttctct ctgtcctgca ctgacacata catgcatgac 240
atcattctgg tggtctttgc cagttttgtg gaagcaatct gtcttctatc agttctcctt 300
tcttatgtct tcattatggc agctattctt agaacaggtt ctgtggaggg aagaagaaga 360
gggttctcca cttgtgcttc ccacctgact gtggtcacta tgtatcatgg taccttgatc 420
ttcatttatt tgcgtcccag cactggccat tcactggata ttgacaaagt gacctctgtg 480
ttctatactt tgattatacc tatgttgaac cctctaattt acagtctaag gaacaaagat 540
gtcaaaaatg cttttagaaa agtgattggc cgaaaattac ttccttaagg t 591

<210> 467
<211> 938
<212> DNA
<213> Unknown (H38g316 nucleotide)

<220>
<223> Synthetic construct

<400> 467
atgatgactc ttaagaactg cactgtgttt actgacttta tattcttagg actttcaggt 60
acacaggata tacagcaggg gctctttgtg cttttcttcc tgatttatgg cataactgtg 120
attgtcaatc tagggatgat cctactgatc aagatggatc tcagacttca cacacccgtg 180
tattatttcc tgagcaattt gtctttctgt gatgtctgct actcttccac gtctctccca 240
aatgctagct gatttcttat cggaccaaaa gtggattccg tataatttat gtgccattca 300
gatgtattta tttggagtct ttgcagatgt ggaatgtctc atgttggctg tcatggccta 360
tgatcgttat gttgccattt gcaatccact tctttatacg atcactatgc ccaggaggat 420
ctgcacccag ctagtggctc ttgcctatgt tgtaggtttg gtggattctg caatccacac 480
ctgctgcaca ttcagattgt cattctgcaa ttctaatgtc atcaatcact tttctgtga 540
catcccaccc ttgctagccc tcaatcctac tattaattgc tattaatgag atagtgatgt 600
tcacattcgt tggctgtgtt gcggggtgca gcattgtcac tgtcttcctc tcctacagct 660
acatcataat taccatcctt aaaatgagct cagctgaggg cagacggaaa gccttctcta 720
cctgcacctc ccacttgatg gccgtggctg tatttcatgg cacactcctg ttcatgtatt 780
tccgacccag ttcaagttac tcaatggaaa cagacaaaat ggcctctgtt ttctacacag 840
ttgtcatacc tatgttaaat ccactgatct acagcttaag gaatagggat gtgaaaggtg 900
ctctgaaaaa agcaataagc actaaattat attctgta 938

<210> 468
<211> 969
<212> DNA
<213> Unknown (H38g317 nucleotide)

<220>
<223> Synthetic construct

<400> 468
atgtcaacat taccaactca gatagccccc aatagcagca cttcaatggc ccccaccttc 60
ttgctggtgg gcatgccagg cctatcaggt gcaccctcct ggtggacatt gcccctcatt 120
gctgtctacc ttctctctgc actgggaaat ggcaccatcc tctggatcat tgccctgcag 180

cccgccctgc accgcccaat gcacttcttc ctcttcttgc ttagtgtgtc tgatattgga 240
ttggtcactg ccctgatgcc cacactgctg ggcatcgccc ttgctggtgc tcacactgtc 300
cctgcctcag cctgccttct acagatggtt tttatccatg tcttttctgt catggagtcc 360
tctgtcttgc tcgccatgtc cattgatcgg gcactggcca tctgccgacc tctccactac 420
ccagcgctcc tcaccaatgg tgtaattagc aaaatcagcc tggccatttc ttttcgatgc 480
ctgggtctcc atctgcccct gccattcctg ctggcctaca tgccctactg cctcccacag 540
gtcctaaccc attcttattg cttgcatcca gatgtggctc gtttggcctg cccagaagct 600
tggggtgcag cctacagcct atttgtggtt ctttcagcca tgggtttgga ccccctgctt 660
attttcttct cctatggcct gattggcaag gtgttgcaag gtgtggagtc cagagaggat 720
cgctggaagg ctggtcaaac ctgtgctgcc cacctctctg cagtgctcct cttctatatc 780
cctatgatcc tcctggcact gattaaccat cctgagctgc caatcactca gcatacccat 840
actcttctat cctatgtcca tttccttctt cctccattga taaaccctat tctctatagt 900
gtcaagatga aggagattag aaagagaata ctcaacaggt tgcagcccag gaaggtgggt 960
ggtgctcag 969

<210> 469
<211> 384
<212> DNA
<213> Unknown (H38g318 nucleotide)

<220>
<223> Synthetic construct

<400> 469
tctcgctcag atacacaggt caatgagtta gtgttattca ccgtctttgg ttttattgaa 60
ctgagtacca tttcaggagt tttcatttct tattgttata tcatcctatc agtcttggag 120
atacactctg ctgaggggag gttcaaagct ctctctacat gcacttccca cttatctgcg 180
gttgcaattt tccagggaac tctgctcttt atgtatttcc ggccaagttc ttcctattct 240
ctagatcaag ataaaatgac ctcattgttt tacacccttg tggttcccat gttgaacccc 300
ctgatttata gcctgaggaa caaggatgtg aaagaggccc tgaaaaaact gaaaaataaa 360
attttatttt aaggaaatag taaa 384

<210> 470
<211> 946
<212> DNA
<213> Unknown (H38g319 nucleotide)

<220>
<223> Synthetic construct

<400> 470
atgtttctgc tcaatacctc agaagttgaa gtctccacat tcctattgat tgggatacca 60
ggacttgagc atgcacacat ttggatctct atccccatct gccttatgta cctcatggcc 120
atcctgggca actgcaccat cctatttgtt atcagaacag agcattccct gcaagagccc 180
atgtactatt tcctctccat gctggccctg tccgacctgg gcctgtcttt ctcctcccta 240
cccacgatgc tgagaatctt cttgttcaac aacatgggga tttctgctga tacatgcatt 300
gcccaggaat tcttcatcca tggattcaca gacatggagt cttcagttct cctaatcatg 360
tcctttgatc acttagtagc catttgcaac cccctaagat atagctctat tctcaccagc 420
ttcagggttt tgcaaattgg actggctttt gccattaaaa gcattctcct agtgctaccc 480
cttttacttt aaagagactc agatactgta ataaacacct tttatcccac tcctactgcc 540
ttcaccagga tgtaatgaag ctggcctgct ctgacaacag ggttaacttt tactatggtt 600
tgttcgttgc actctgcatg atgtcagaca gtgtttttat tgctatttcc tatatgtgtt 660
catcctgaag actgtgttgg gtattgcatc ccatggggag tgcctcgaag ctcttgacac 720
ctgtgtgtct catatctgtg ctgtactcgt cttctatgtg cccatcatca ccttggctac 780
catgcgtcgc tttgctaagc ataaatcccc tttagctatg attctgatag cagatgcatt 840
cttgctggta ccacccttga tgaatcccat tgtgtattgt gtaaaaactc ggcagattag 900
agtaaaggtc ctggaaaaat tggctctgaa gcctaaatga tggggc 946

<210> 471
<211> 942
<212> DNA

<213> Unknown (H38g320 nucleotide)

<220>
<223> Synthetic construct

<400> 471
atgatggcat ctgaaagaaa tcaaagcagc acacccactt ttattctctt gggtttttca 60
gaatacccag aaatccaggt tccactcttt ctggttttct tgttcgtcta cacagtcact 120
gtagtgggga acttgggcat gataataatc atcagactca attcaaaact ccatacaatc 180
atgtgctttt tccttagtca cttgtccttg acagacttct gtttttccac tgtagttaca 240
cctaaactgt tggagaactt ggttgtggaa tacagaacca tctctttctc tggttgcatc 300
atgcaatttt gttttgcttg catttttgga gtgacagaaa ctttcatgtt agcagcgatg 360
gcttatgacc gttttgtggc agtttgtaaa cccttgctgt ataccactat tatgtctcag 420
aagctctgtg ctcttctggt ggctgggtcc tatacatggg ggatagtgtg ctccctgata 480
ctcacatatt ttcttcttga cttatcgttt tgtgaatcta ccttcataaa taattttatc 540
tgtgaccact ctgtaattgt ttctgcctcc tactcagacc cctatatcag ccagaggcta 600
tgctttatta ttgccatatt caatgaggtg agcagcctaa ttatcattct gacatcatat 660
atgcttattt tcactaccat tatgaagatg cgatctgcaa gtgggcgcca gaaaactttc 720
tccacctgtg cctcccacct gacagccatc actatcttcc atggaactat ccttttcctt 780
tactgtgttc ctaatcctaa aacttctagc ctcatagtta cagtggcttc tgtgttttac 840
acagtggcga ttccaatgct gaacccattg atctacagcc ttaggaacaa agatatcaat 900
aacatgtttg aaaaattagt tgtcaccaaa ttgatttacc ac 942

<210> 472
<211> 965
<212> DNA
<213> Unknown (H38g321 nucleotide)

<220>
<223> Synthetic construct

<400> 472
cacacagagc cacggaatca cacaggggtc tgagaatttc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctgtccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtccgct ctgactcccc cctccacaac 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcggccacg 240
gttgccaaga tgattgtgga atgcagtcgc atagcagagt catctctcat gcgggctgcc 300
tgacgcagat gtctttcttg gtcctttttg catgtataga aggcatgctc ctgactgtga 360
tggcctatga ctgctttgta gccatctgtc gtcctctgca ctacccagtc atcgtgaatc 420
ctcacctctg tgtcttcttc gttttggtgt cctttttcct tagcctgttg gattcccagc 480
tgcacagttc gattgtgtta caattcacca tcatcaagaa tgtggaaatc tctcattttg 540
tctgtgaccc ctctcatctt ctcaaacttg cctgttctga cagcgtcatc aatagcatat 600
tcatatattt cgatagtact atgtttggtt ttcttcccat ttcagggatc ctttggtctt 660
actataaaat cgtcccctcc attctaagga tttcatcatc agatgggaag tataaagcct 720
tcgccacctg tggctctcac ctagcagttg tttgctgatt tgatggaaca ggcattggta 780
tgtacctgac ttcagctgtg gcaccacccc ctaggaatgg agtggtggca tcagtgatgt 840
aggctgtggt cacccccatg ctgaaccttt tcatctacag cctgagaaac agggacatac 900
aaagtgccct gcggaggctg ctcagcagaa cagtcgaatt tcatgatctg tttcattctt 960
tttct 965

<210> 473
<211> 990
<212> DNA
<213> Unknown (H38g322 nucleotide)

<220>
<223> Synthetic construct

<400> 473
atgtcggtcc tcaataatac cattgctgag cctctgatct tcctcctgat gggcattcca 60
ggcctgaaag ccacccagta ctggatctcc atcccttttt gtctcctata tgttgttgcc 120

```
gtctctggaa atagcatgat cctgtttgtg gtcctctgtg aacggagcct ccataagcct    180
atgtactatt tcctctctat gctttcagcc acagacctga gcttgtccct gtgtacactt    240
tctactaccc ttggtgtctt ctggtttgaa gcccgagaaa tcaacctaaa tgcctgcatt    300
gcccagatgt tctttctaca cggatttact ttcatggagt ctggggttct actggccatg    360
gcctttgatc gttttgtggc catctgttac ccactgagat acactaccat ccttaccaat    420
gcccgaattg ccaagattgg gatgagcatg ttgataagaa atgttgccgt catgttgcca    480
gtcatgctct ttgtcaagag gttgtccttc tgcagttcta tggtcctttc acattcttac    540
tgctaccatg ttgatctcat ccaactctcc tgcacagaca ataggatcaa cagcatcctt    600
ggtctgtttg cgcttttgtc cactacaggg tttgactgcc cttgcatcct gctctcctat    660
atcctgatca ttcgatctgt cctcagcatt gcttcctcag aagagaggcg gaaagccttc    720
aacacctgca catcccacat cagtgctgtt tccatcttct acctccctct catcagtttg    780
tctcttgtcc atcgctatgg ccattcagca cctccatttg tccacatcat catggccaat    840
gtctttctgc taatccctcc tgtgctcaac cctattattt acagtgtaaa gattaagcag    900
attcaaaagg ccattatcaa ggtcttaatt cagaagcact ccaaatctaa tcatcagcta    960
tttctgatta gagataaagc catttatgaa                                     990
```

<210> 474
<211> 942
<212> DNA
<213> Unknown (H38g323 nucleotide)

<220>
<223> Synthetic construct

<400> 474

```
atgatgatgg ttttaaggaa tctgagcatg gagcccacct ttgccctttt aggtttcaca     60
gattacccaa agcttcagat tcctctcttc cttgtgtttc tgctcatgta tgttatcaca    120
gtggtaggaa accttgggat gatcataata atcaagatta accccaaatt tcacactcct    180
atgtactttt tccttagtca cctctctttt gttgattttt gttactcttc cattgtcact    240
cccaagctgc ttgagaactt ggtaatggca gataaaagca tcttctactt tagctgcatg    300
atgcagtact tcctgtcctg cactgctgtg gtgacagagt ctttcttgct ggcagtgatg    360
gcctatgacc gctttgtggc catctgcaat cctctgcttt atacagtggc catgtcacag    420
aggctctgtg ccctgctggt ggctgggtca tatctctggg gcatgtttgg ccccttggta    480
ctcctttgtt atgctctccg gttaaacttc tctggaccta atgtaatcaa ccacttcttt    540
tgtgagtata ctgctctcat ctctgtgtct ggctctgata tactcatccc ccacctgctg    600
cttttcagct tcgccacctt caatgagatg tgtacactac tgatcatcct cacttcctat    660
gttttcattt ttgtgactgt actaaaaatc cgttctgtta gtgggcgcca caaagccttc    720
tccacctggg cctcccacct gactgctatc accatcttcc atgggaccat cctttttcctt   780
tactgtgtac ccaactccaa aaactctcgg caaacagtca aagtggcctc tgtattttac    840
acagttgtca accccatgct gaaccctccg atctacagcc taaggaataa agacgtgaag    900
gatgctttct ggaagttaat acatacacaa gttccatttc ac                       942
```

<210> 475
<211> 942
<212> DNA
<213> Unknown (H38g324 nucleotide)

<220>
<223> Synthetic construct

<400> 475

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atggtgctgg cttcagggaa cagctcttct catcctgtgt ccttcatcct gcttggaatc     60
ccaggcctgg agagtttcca gttgtggatt gcctttccgt tctgtgccac gtatgctgtg    120
gctgttgttg gaaatatcac tctcctccat gtaatcagaa ttgaccacac cctgcatgag    180
cccatgtacc tctttctggc catgctggcc atcactgacc tggtcctctc ctcctccact    240
caacctaaga tgttggccat attctggttt catgctcatg agattcagta ccatgcctgc    300
ctcatccagg tgttcttcat ccatgccttt tcttctgtgg agtctggggt gctcatggct    360
atggccctgg actgctacgt ggctacctgc ttcccactcc gacactctag catcctgacc    420
ccatcggtcg tgatcaaact ggggaccatc gtgatgctga gaggctgct gtgggtgagc     480
cccttctgct tcatggtgtc taggatgccc ttctgccaac accaagccat tccccagtca    540
tactgtgagc acatggctgt gctgaagttg gtgtgtgctg atacaagcat aagtcgtggg    600
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tatgggctct ttgtggcctt ctctgtggct ggctttgata tgattgtcat tggtatgtca 660
tacgtgatga ttttgagagc tgtgcttcag ttgccctcag gtgaagcccg cctcaaagct 720
tttagcacac gtgcctccca tatctgtgtc atcttggctc tttatatccc agcccttttt 780
tctttcctca cctaccgctt tggccatgat gtgccccgag ttgtacacat cctgtttgct 840
aatctctatc tactgatacc tcccatgctc aaccccatca tttatggagt tagaaccaaa 900
cagatcgggg acagggttat ccaaggatgt tgtggaaaca tc 942

<210> 476
<211> 860
<212> DNA
<213> Unknown (H38g325 nucleotide)

<220>
<223> Synthetic construct

<400> 476
tatatattgt tagacatata tatatgtcta aacaacactc atgtctaatt gtgtgtagag 60
tcactagagg caatttaaaa taagttttta tttttctttt tttctattgg caataacatg 120
attttagtga taaattttaa taattatgaa aacataacag tactttttaa aacataaaca 180
tttaaagaaa aagttttcat gattcttgta tacatcttaa catacatact ctccctttaa 240
agtaagttct ttgcattgtt taaatctttg cagacaaagc ttttcaagag caagtcagtg 300
gaaactagta gagcaggagt tgagaaagcc ctgtgcatta tacactcacc atgtcccaga 360
agttttgctc catccatcca gcaggatgtt agaccagggc atataatcta tccccggtca 420
ctcattttct cattgtattg cctattgtgg gcacaatgta gttaatatat tttaaaataa 480
atattctgtt gccatttcag attcgtgagt tcatctggat agcggatttt tgtttgtttg 540
tttgttttgc tttagtcaat tttgattaat taaggaatct cagagtcctc actccttagc 600
tttcattttc aacttgtcta aaaggcactt tctgccagtg cacatcaacc ttctccaccc 660
atttcccaca tttccaccat ccttcctcac tctagtgcac taactccaaa aactcacagg 720
caactgtgaa agcacactct gtatgttatg ccatgttaat ccccatgctg aactcacaga 780
cttgtagcat gcggtacaaa aatgtgaatg aatctctgca gaagctgatg gacttcaaaa 840
tattttagca ttgaaagcaa 860

<210> 477
<211> 966
<212> DNA
<213> Unknown (H38g326 nucleotide)

<220>
<223> Synthetic construct

<400> 477
agtcacacag agccatagaa tctcacaagt gtctcagaat tccttctcca gggactctca 60
gaggatccag aactgcagcc cgtcctcgct gggctgtccc tgtccatgta cctggtcacg 120
gtgctgagga acctgctcat catcctggct gtcagctctg actcccacct ccacaccccc 180
atgtacttct tcctctccaa cctctcctgg gctgacattg gtttcacctc ggccatggtt 240
cccaagatga ttgtggacat gcagtcgcat agcagagtca tctcttaagc gggctgcctg 300
acacagatgt ctttctttgt ccttttgca tgtatagaag acatgctcct gactgtgatg 360
gcctatgacc aatttgtggc catctgtcac ccctgcacta cccagtcatc atgaatcctc 420
acctctgtgt cttcttagtt ttggtttctt ttttccttag cctgttggat tcccagctgc 480
acagttggat tgtgttacaa ttcaccttct tcaagaatgt ggaaatctct aattttttct 540
gtgatccatc tcaacttctc aaccttgcct gttctgacgg catcatcaat agcatattta 600
tatatttaga tagtattctg ttcagttttc ttcccatttc agggatcctt ttgtcttact 660
ataaaattgt cccctccatt ctaagaattt catcgtcaga tgggaagtat aaagccttct 720
ccatctgtgg ctctcacctg gcagttgttt gcttatttta tggaacaggc attggcgtgt 780
acctaacttc agctgtgtca ccaccccag gaatggtgtg gtggcgtcag tgatgtatgc 840
tgtgggcacc cccatgctga actcttttat ctacagcctg agaaacaggg acattcaaag 900
cgccctgtgg aggctgcgca gcagaacagt cgaatctcat gatctgttcc atccttattc 960
ttgtgt 966

<210> 478
<211> 951

<212> DNA
<213> Unknown (H38g327 nucleotide)

<220>
<223> Synthetic construct

<400> 478
atgcaaccat ataccaaaaa ctggacccag gtaactgaat ttgtcatgat gggctttgct 60
ggcatccatg aagcacacct cctcttcttc atactcttcc tcaccatgta cctgttcacc 120
ttggtggaga atttggccat cattttagtg gtgggtttgg accaccgact acggagaccc 180
atgtatttct tcctgacaca cttgtcctgc cttgaaatct ggtacacttc tgttacagtg 240
cccaagatgc tggctggttt tattggggtg gatggtggca agaatatctc ttatgctggt 300
tgcctatccc agctcttcat cttcaccttt cttggggcaa ctgagtgttt cctactggct 360
gccatggcct atgatcgtta tgtggccatt tgtatgcctc tccactatgg ggcttttgtg 420
tcctggggca cctgcatccg tctggcagct gcctgttggc tggtaggttt cctcacaccc 480
atcttgccaa tctacctctt gtctcagcta acattttgtg gcccaaatgt cattgaccat 540
ttctcctgtg atgcctcacc cttgctagcc ttgtcgtgct cagatgtcac ttggaaggag 600
actgtggatt tcctggtgtc tctggctgtg ctactggcct cctctatggt cattgctgtg 660
tcctatggca acatcgtctg gacactgctg cacatccgct cagctgctga gcgctggaag 720
gccttctcta cctgtgcagc tcacctgact gtggtgagcc tcttctatgg cactcttttc 780
tttatgtatg tccagaccaa ggtgacctcc tccatcaact tcaacaaggt ggtatctgtc 840
ttctactctg ttgtcacgcc catgctcaat cctctcatct acagtcttag gaacaaggaa 900
gtgaagggag ctctgggtcg agtcttttct ctcaactttt ggaagggaca g 951

<210> 479
<211> 936
<212> DNA
<213> Unknown (H38g328 nucleotide)

<220>
<223> Synthetic construct

<400> 479
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc ccccatgtac 180
tttctactgg ccagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcgt tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagatatg tggccctatg taagcccctc cactatctga ccattatgag cccaagaatg 420
tgcctttcat ttctggctgt tgcctggacc cttggtgtca gtcactccct gttccaactg 480
gcatttcttg ttaatttacc cttctgtggc cctaatgtgt tggacagctt ctactgtgac 540
cttcctcagc ttctcagact agcctgtacc gacacctaca gattgcagtt catggtcact 600
gttaacagtg ggtttatctg tgtgggtact ttcttcatac ttctaatctc ctacatcttc 660
atcctgttta ctgtttggaa acattcctca ggtggttcat ccaaggccct ttccactctt 720
tcagctcaca gcacagcggt ccttttgttc tttggtccac ccatgtttgt gtatacatgg 780
ccacacccta attcacagat ggacaagttt ctggctattt ttgatgcagt tctcactcct 840
tttctgaatc cagttgtcta tacattcagg aataaggaga tgaaggcagc aataaagaga 900
gtatgcaaac agctagtgat ttacaagaag atctca 936

<210> 480
<211> 668
<212> DNA
<213> Unknown (H38g329 nucleotide)

<220>
<223> Synthetic construct

<400> 480
gtgaggcacc ccctgcgatg cgggaagtaa gagccagccc ctctcccacc cctggctctt 60
aggaacccca tcatgacctc gtgtttctgt ggctttctag ttttgtcttt tttttttttt 120

ttctcagtcc tttagacgcc cagctgcaca acttgattgc cttacaaatg acctgcttcc 180
aggatgcgga aattcctagt ttcttctgtg acccttctca actcccccat cttgcatgtt 240
gtgacacctt caccaataac ataatcatgt atttgcctgc tgccatattt ggttttcttc 300
ccatctcggg gaccctttc tcttactata aaattgtttc ctccattctg agggtttcat 360
catcacgtgg gaagtataag gccttctcca cctgtgggtc tcacctgtca gttgtttgct 420
gattttacgg aacaggcttt ggagggtacc tcagttcaga tgtgtcatct tccccgagaa 480
aggctgcagt ggcctcagtg atgtacacgg tgatcacctc catgctgaac cccttcatct 540
acagcctgag aaacagggat attaaaggtg tcctgcggca gccgcacggc agcaccgtcc 600
aatttcagta tcttcttatc tgttccattc cttttgtagt gtgggttaaa aaaggcagca 660
aggtcaaa 668

<210> 481
<211> 840
<212> DNA
<213> Unknown (H38g330 nucleotide)

<220>
<223> Synthetic construct

<400> 481
atgtacctgg tcacggtgct gaggaacctg ctcatcatcc tggctgtcag ctctgactcc 60
cacctccaca cccccatgtg cttcttcctc tccaacctgt gctgggctga catcggtttc 120
acctcggcca tggttcccaa gatgattgtg gacatgcagt cgcatagcag agtcatctct 180
tatgcgggct gcctgacaca gatgtctttc tttgtccttt ttgcatgtat agaagacatg 240
ctcctgacag tgatggccta tgaccgattt gtggccatct gtcacccccct gcactaccca 300
gtcatcatga atcctcacct tggtgtcttc ttagttttgg tgtccttttt cctcagcctg 360
ttggattccc agctgcacag ttggattgtg ttacaattca ccttcttcaa gaatgtggaa 420
atctccaatt ttgtctgtga cccatctcaa cttctcaacc ttgcctgttc tgacagtgtc 480
atcaatagca tattcatata tttagatagt attatgtttg gttttcttcc catttcaggg 540
atcctttgt cttacgctaa caatgtcccc tccattctaa gaatttcatc atcagatagg 600
aagtctaaag ccttctccac ctgtggctct cacctggcag ttgtttgctt attttatgga 660
acaggcattg gcgtgtacct gacttcagct gtgtcaccac cccccaggaa tggtgtggtg 720
gcatcagtga tgtacgctgt ggtcaccccc atgctgaacc ctttcatcta cagcctgaga 780
aatagggaca ttcaaagtgc cctgtggagg ctgcgcagca gaacagtcga atctcatgat 840

<210> 482
<211> 924
<212> DNA
<213> Unknown (H38g331 nucleotide)

<220>
<223> Synthetic construct

<400> 482
atggaaacac agaacctcac agtggtgaca gaattcattc ttcttggtct gacccagtct 60
caagatgctc aacttctggt ctttgtgcta gtcttaattt tctaccttat catcctccct 120
ggaaatttcc tcatcatttt caccataaag tcagaccctg ggctcacagc ccccctctat 180
ttctttctgg gcaacttggc cttactggat gcatcctact ccttcattgt ggttcccagg 240
atgttggtgg acttcctctc tgagaagaag gtaatctcct atagaagctg catcactcag 300
ctcttttct tgcattttct tggagcggga gagatgttcc tcctcgttgt gatggccttt 360
gaccgctaca tcgccatctg ccggccttta cactattcaa ccatcatgaa ccctagagcc 420
tgctatgcat tatcgttggt tctgtggctt gggggcttta tccattccat tgtacaagta 480
gcccttatcc tgcacttgcc tttctgtggc ccaaaccagc tcgataactt cttctgtgat 540
gttccacagg tcatcaagct ggcctgcacc aataccttg tggtggagct tctgatggtc 600
tccaacagtg gcctgctcag cctcctgtgc ttcctgggcc ttctggcctc ctatgcagtc 660
atcctctgtc gtataaggga gcactcctct gaaggaaaga gcaaggctat ttccacatgc 720
accacccata ttatcattat atttctcatg tttggacctg ctattttcat ctacacttgc 780
cccttccagg ctttcccagc tgacaaggta gtttctcttt tccatactgt catctttcct 840
ttgatgaacc ctgttattta tacgcttcgc aaccaggagg tgaaagcttc catgaggaag 900
ttgttaagtc aacatatgtt ttgc 924

<210> 483
<211> 457
<212> DNA
<213> Unknown (H38g332 nucleotide)

<220>
<223> Synthetic construct

<400> 483
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gggatgagaa aggaacaagc tgtctgtggt agtcatccat gattgagatg atgtgtggac    60
cctgagtcag actacctggt tcaaatgcag gctctctact ttttacccat ttgatcttgg   120
cctgtggctc tctacttctt atccatttca tcttggactt gtggcctctc atacctcatc   180
ttccttacag tcctccatat gaaatccccc taaagtagga acaaagcttt ggccaactgc   240
tcctcccatc tttccgtggt ctttacttag gaactgtgtg tttaatatac gtgacacagg   300
gtttctccca catccctgag cagaaacaag ctgtgtctgt attttgcact gtactcaccc   360
ccatgctaaa ccccctcatc tacatcctga gaaacaagga tgtggtgggg ctcttcagaa   420
agttctggga acacatcaag tctctaaaca gaacaca                            457
```

<210> 484
<211> 972
<212> DNA
<213> Unknown (H38g333 nucleotide)

<220>
<223> Synthetic construct

<400> 484
```
atgtctttct tctttgtaga cttaagaccc atgaacaggt cagcaacaca catcgtgaca    60
gagtttattc tcctgggatt ccctggttgc tggaagattc agattttcct cttctcattg   120
tttttggtga tttatgtctt gaccttgctg ggaaatggag ccatcatcta tgcagtgaga   180
tgcaacccac tactacacac ccccatgtac tttctgctgg gaaattttgc cttccttgag   240
atctggtatg tgtcctccac tattcctaac atgctagtca acattctctc caagaccaag   300
gccatctcat tttctgggtg cttcctccag ttctatttct tcttttcact gggaacaact   360
gaatgtctct ttctggcagt aatggcttat gatcgatacc tggccatctg ccacccactg   420
cagtaccctg ccatcatgac tgtaaggttc tgtggtaagc tggtgtcttt ctgttggctt   480
attggattcc ttggataccc aattcccatt ttctacatct cccaactccc cttctgtggt   540
cctaatatca ttgatcactt cctgtgtgac atggacccat tgatggctct atcctgtgcc   600
ccagctccca taactgaatg tattttctat actcagagct ccccttgtcct cttttttcact   660
agtatgtaca ttcttcgatc ctatatcctg ttactaacag ctgtttttca ggtcccttct   720
gcagctggtc ggagaaaagc cttctctacc tgtggttctc atttggttgt ggtatctctt   780
ttctatggga cagtcatggt aatgtatgta agtcctacat atgggatccc aactttattg   840
cagaagatcc tcacactggt atattcagta acgactcctc tttttaatcc tctgatctat   900
actcttcgta ataaggacat gaaactcgct ctgagaaatg tcctgtttgg aatgagaatt   960
cgtcaaaatt cg                                                       972
```

<210> 485
<211> 945
<212> DNA
<213> Unknown (H38g334 nucleotide)

<220>
<223> Synthetic construct

<400> 485
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atggccaaca tcaccaggat ggccaaccac actggaaagt tggatttcat cctcatggga    60
ctcttcagac gatccaaaca tccagctcta cttagtgtgg tcatctttgt ggttttcctg   120
aaggcgttgt ctggaaatgc tgtcctgatc cttctgatac actgtgacgc ccacctccac   180
agccccatgt actttttcat cagtcaattg tctctcatgg acatggcgta catttctgtc   240
actgtgccca agatgctcct ggaccaggtc atgggtgtga ataaggtctc agcccctgag   300
tgtgggatgc agatgttcct ctatctgaca ctagcaggtt cggaattttt ccttctagcc   360
accatggcct atgaccgcta cgtggccatc tgccatcctc tccgttaccc tgtcctcatg   420
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aaccataggg tctgtctttt cctggcatcg ggctgctggt tcctgggctc agtggatggc 480
ttcatgctca ctcccatcac catgagcttc cccttctgca gatcctggga gattcatcat 540
ttcttctgtg aagtccctgc tgtaacgatc ctgtcctgct cagacacctc actctatgag 600
accctcatgt acctatgctg tgtcctcatg ctcctcatcc ctgtgacgat catttcaagc 660
tcctatttac tcatcctcct caccgtccac aggatgaact cagcagaggg ccggaaaaag 720
gcctttgcca cctgctcctc ccacctgact gtggtcatcc tcttctatgg ggctgccgtc 780
tacacctaca tgctccccag ctcctaccac acccctgaga aggacatgat ggtatctgtc 840
ttctatacca tcctcactcc ggtgctgaac cctttaatct atagtcttag gaataaggat 900
gtcatggggg ctctgaagaa aatgttaact gtgagattcg tcctt 945

<210> 486
<211> 759
<212> DNA
<213> Unknown (H38g335 nucleotide)

<220>
<223> Synthetic construct

<400> 486
agccacctct ccgtcattga cacattatac atctccacca ttgtgcccaa gatgctggta 60
gattatctca tgggcgaggg gaccatctct ttcatcgcct gcactgctca gtgctttctc 120
tacatgggct ttatgggggc tgaattcttc ctgctggggc tcatggccta tgaccgctac 180
gtggccatct gcaacccact gcgctatcct gtcctcatca gctggcgggt ctgctggatg 240
atcctggcca gctcttggtt cggtggggct ttggacagtt ttctcctcac ccccattacc 300
atgagtctcc cgttctgtgc ctctcaccaa atcaatcact tttctgtga ggcacccacc 360
atgctgaggc tggcctgtgg ggacaaaacc acctatgaaa cagtgatgta tgtgtgctgc 420
gttgcaatgc tgctgatccc cttctcggtg gtgactgcat cctacaccag gattctcatc 480
acagtgcatc agatgacatc ggctgaaggg aggaagaagg cctttgccac ctgctcttca 540
cacatgatgg tggtgacatt gttctatggg gctgccttgt atacgtatac gcttccccaa 600
tcttaccaca ccccaatcaa agataaggtc ttctctgcct tttataccat cctcacaccc 660
ttattaaacc ctctcatcta cagtctgagg aacagggatg tgatgggtgc cttgaagaga 720
gttgtggcaa gatgttaggg gacatgtggt gtgatgagg 759

<210> 487
<211> 857
<212> DNA
<213> Unknown (H38g336 nucleotide)

<220>
<223> Synthetic construct

<400> 487
gttttctccc gcacccgggt tcgcctcaat tgcaaacgca tattctggct aacgccagtc 60
tttttttgt ccccctcatg cccatctcct atcgcagtgt ctaagagtgc agtcagcttc 120
gtgtcacaga gcaggcgcat tagatttttg ggctgtgaca ttcaaacggt atgtgttcct 180
gggcccctgg gggaactgaa gcccttctct ttggttttat gtcttatgat cgctatgtag 240
ctatctgtca ccctttacat tatcctatgc ttatgagcaa gaagatctgc tgcctcatgg 300
ttgcatgtgc atgggccagt ggttctatca atgctttcat acatacattg tatgtgtttc 360
agcttccatt ctgtaggtct cggctcatta accacttttt ctgtgaagtt ccagctctac 420
tatcattggt gtgtcaggac acctcccagt atgagtatac agtcctcctg agtggactta 480
ttatcttgct actaccattc ctagccattc tggcttccta tgctcgtgtg cttattgtgg 540
tattccagat gagctcagga aaaggacagg caaaagctgt ttccacttgt tcctcccacc 600
tgattgtggc aagcctgttc tatgcaacca ctctctttac ctacacaagg ccacactcct 660
tgcgttcccc ttcacgggat aaggcggtgg cagtatttta caccattgtc acacctctac 720
tgaacccatt tatctacagc ctgagaaata aggaagtgac gggggcagtg aggagactgt 780
tgggatattg gatatgctgt agaaaatatg acttcagatc tctgtattga ttgagcatta 840
acaacataaa aagctgt 857

<210> 488
<211> 812
<212> DNA

<213> Unknown (H38g337 nucleotide)

<220>
<223> Synthetic construct

<400> 488
agaagggaca ttttctattt tgccttcatt tgtagctatt catgactgac tctccgttct 60
tttgtctact tgttcatccg tccatccatc catccatcca tccactcagc cattcttttg 120
ttcaacagtg atttactgaa ttccttacta tgactcttct atatttgaca tgccacacga 180
tgttcagcaa tgacttctac tcaagagcta gtttttagtt tcacactgct tttctcttgt 240
tctttatctt ttgcttttgt agctcagaac agaaaaatct atagaaaaga tcttgctacc 300
aggctatggg accctcttgt ccatggcgat atcttactgt ctttgtgtct ttgggctgag 360
caatcctgca gcatggtgta tgctcaataa tgctcatgga acaaaatggt gtggttcctc 420
ttccaggaag tgctgccatc tctcttttga ttgagaatag gtttacctag gtgattacat 480
cactaacatt gtattcctgt gatttcttcc tcatgatagg acagatttta ctaaaaagtc 540
aaaaattatt tattacatta tgccgttcct cttacttttc atgccagatt aaattttctt 600
ggtccttcaa tgcccacttc taatatcaat aaacaagtaa cctttcccca acctactgaa 660
gtcgccatgt ggaattggtc attctttctg ttgattccat atcatcccct tcattcttct 720
gtctgcccgt ttgtccatcc atttatccat ccacttagct attcgttcgt tcaacaatga 780
tttagtgaat acctacttac tgtgacccta tt 812

<210> 489
<211> 931
<212> DNA
<213> Unknown (H38g338 nucleotide)

<220>
<223> Synthetic construct

<400> 489
atgtcattag ctgaaggaaa tcagagttct ggagccgtat ttaccctctt gggcttctca 60
gaatatgcag acctccaggt tcctctgttc ctggtcttcc tgaccatcta cacaatcact 120
gtattgggaa acctgggcat gatcatgatc atcaggatca accccaaact ccacacccgc 180
atgtactttt tcctcagcca cttgtccttt gttgatttct gttattccac cacagttaca 240
cccaaactgc tggagaactt ggttgtggaa gacagaacca tctccttcac aggatgcatc 300
atgcaattct tcctggcgtg tatatgtgca gtggcagaaa cattcatgct ggcagtgatg 360
gcctatgatt gatacgtggc ggtgtgtaac cctttgctct acacagttgt caggtcccag 420
aaactctgtg catcattagt ggcagggccc tacacatggg gtataatctc ttctctgaca 480
ctcacctatt tcctcttgtc attatccttc tgtgggtcta acatcatcaa taattttgtc 540
tgtgagcact ctgtcatcat ctctgtctcc tgctctgacc cctacatcag ccaaatgctt 600
tgttttgtca ttgcaatatt caatgaggtg agcagcttgg gagtcatcct cactacctat 660
attttcatct ttattgctgt cataaaaatg ccttctgctg ttgggcacca aaaagctttc 720
tctacctgtg cttcccacct gactgccatc actatttcc acgggactgt cctgttcctt 780
tattgtgtac ccaactccaa aaactcatgg ctcatagtca aagtaggttc tgtgttttat 840
acagtcatca tccccacgtt gaacccttta acctacagcc tcaggaacaa agacgtgaaa 900
gagagtgttc gaaagttaat gaatcactca a 931

<210> 490
<211> 651
<212> DNA
<213> Unknown (H38g339 nucleotide)

<220>
<223> Synthetic construct

<400> 490
ttcttggtcc tttttgcatg tatagaagac atgttcctga ctgtgatggc ctatgactgc 60
tttatagcca tctgtcatcc tctgcactac ccagtcatcg tgaatcctca cctctgtgtc 120
ttcttcattt tggtgtcctt tttccttagc ctgttggatt cccagctgca tagctggatt 180
gtgttacaat tcaccatcat caagaatgtg gaagtctcta attttgtctg tgacccctct 240
caacttctca aacttgcctg ttctgacagc gtcatcaata gcatattcat atatttcgat 300

aatactatgt ttggttttct tcccatttca gggatccttt ggtcttacta taaaatcgtc 360
ccctacattc tcaggatttc atcgtcagat gggaagtata aagccttcgc cacctgtggc 420
tctcacctgg cagttgcttg ctgattttat ggaacaggca ttggcatgta cctgacttca 480
gctgtgtcac caccccccag gaatggtgtg gtggcatcag tgatgtacgc tgtggtcacc 540
cccatgctga accttttat ctacagcctg agaaacaggg acatacaaag tgccctgcgg 600
aggctgcgcc ccagaacagt cgaatctcat gatctgttcc atcctttttc t 651

<210> 491
<211> 933
<212> DNA
<213> Unknown (H38g340 nucleotide)

<220>
<223> Synthetic construct

<400> 491
atgggcaagg aaaactgcac cactgtggct gagttcattc tccttggact atcagatgtc 60
cctgagttga gagtctgcct cttcctgctg ttccttctca tctatggagt cacgttgtta 120
gccaatctgg gcatgactgc actgattcag gtcagctctc ggctccacac ccccgtgtac 180
tttttcctca gccacttgtc ctttgtagat ttctgctact cctcaataat tgtgccaaag 240
atgttggcta atatctttaa caaggacaaa gccatctcct tcctagggtg catggtgcaa 300
ttctacttgt tttgcacatg tggagtcact gaggtcttcc tgctggccgt gatggcctat 360
gaccgctttg tggccatctg taaccccctg ctgtacatgg tgaccatgtc tcagaagctg 420
cgtgtggagc tgacctcttg ctgctacttc tgtgggacgg tgtgttctct gattcactcg 480
tccttagctc ttaggatcct cttctataga tctaatgtga ttaaccactt cttctgtgat 540
ctacccctc tcctaagtct tgcttgctct gatgtcactg tgaatgagac actgctgttc 600
ctggtggcca ctttgaatga gagtgttacc atcatgatca tcctcacctc ctacctgcta 660
attctcacca ctatcctgaa gatacactct gcagagagca ggcacaaagc tttctccacc 720
tgtgcctccc acctcacagc catcactgtc tcccatggaa caatccttta catttattgc 780
aggccgagtt caggcaacag tggagatgtt gacaaagtgg ccaccgtgtt ctacacagtt 840
gtgattccca tgctgaaccc cctgatctac agcctgagaa ataaggatgt gaacaaagct 900
ctcagaaaag tgatgggctc caaaattcac tcc 933

<210> 492
<211> 963
<212> DNA
<213> Unknown (H38g341 nucleotide)

<220>
<223> Synthetic construct

<400> 492
atgtttctga cagagagaaa tacgacatct gaggccacat tcactctctt gggcttctca 60
gattacctgg aactgcaaat tcccctcttc tttgtatttc tggcagtcta cggcttcagt 120
gtggtaggga atcttgggat gatagtgatc atcaaaatta acccaaaatt gcataccccc 180
atgtattttt tcctcaacca cctctccttt gtggatttct gctattcctc catcattgct 240
cccatgatgc tggtgaacct ggttgtagaa gatagaacca tttcattctc aggatgtttg 300
gtgcaattct tttcttttg cacctttgta gtgactgaat taattctatt tgcggtgatg 360
gcctatgacc actttgtggc catttgcaat cctctgctct acacagttgc catctcccag 420
aaactctgtg ccatgctggt ggttgtattg tatgcatggg gagtcgcatg ttccctgaca 480
ctcgcgtgct ctgctttaaa gttatctttt catggtttca acacaatcaa tcatttcttc 540
tgtgagttat cctccctgat atcactctct taccctgact cttatctcag ccagttgctt 600
cttttcactg ttgccacttt taatgagata agcacactac tcatcattct gacatcttat 660
gcattcatca ttgtcaccac cttgaagatg ccttcagcca gtgggcaccg caaagtcttc 720
tccacctgtg cctcccacct gactgccatc accatcttcc atggcaccat cctcttcctc 780
tactgtgtac ccaactccaa aaactccagg cacacagtca aagtggcctc tgtgttttac 840
accgtggtga tccccttgtt gaatcccctg atctacagtc tgagaaataa agatgttaag 900
gatgcaatcc gaaaaataat caatacaaaa tattttcata ttaaacatag gcattggtat 960
cca 963

<210> 493

<211> 303
<212> DNA
<213> Unknown (H38g342 nucleotide)

<220>
<223> Synthetic construct

<400> 493
tgttgcccac tccaccacca ttacctgcct agacagtcac tggatcagct cacatactta 60
attgctttga ttttcaattt tctctttgtt tttggcctcc agagttcctt tattttctta 120
aaggcatgac agtgctttcc aaaggatatc cactatattt tcgttaaggc gagaagggct 180
tcaggttatc taacctacca tattgctgga aatagaagtt aaaccgtttt tttcctagtc 240
tgtaactgcc actattatgg tgatgatata ggctaagtct gaatatttta tgtgaacata 300
tta 303

<210> 494
<211> 957
<212> DNA
<213> Unknown (H38g343 nucleotide)

<220>
<223> Synthetic construct

<400> 494
atgcctgtgg ggaaacttgt cttcaaccag tctgagccca ctgagtttgt gttccgtgcg 60
ttcaccacag ccactgaatt ccaggttctt ctcttccttc tcttcctcct cctctacttg 120
atgatcctct gtggcaacac agccatcatc tgggtggtgt gcacacacag caccctccgc 180
accccgatgt atttcttcct gtccaacctg tctttcctgg aactctgcta caccaccgtg 240
gtagtaccct tgatgctttc caacattttg gggggcccaga agcccatttc gttggctgga 300
tgtggggccc aaatgttctt ctttgtcacc ctcggcagca cggactgttt cctcttggcg 360
atcatggcct atgaccgcta tgtggctatc tgccacccgc tgcactacac cctcatcatg 420
acccgcgagc tgtgcacgca gatgctgggt ggggccctgg gcctggccct cttcccctcc 480
ctgcagctca ccgccttaat cttcaccctg ccctttgcg gccaccacca ggaaatcaac 540
cacttcctct gcgatgtgcc tcccgtcctg cgcctggcct gcgctgacat ccgcgtgcac 600
caggctgtcc tctatgtcgt gagcatcctc gtgctgacca tccccttcct gctcatctgc 660
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cgggccttct ccacctgctc cttccacctc accgtggtcc tgctgcagta tggctgctgc 780
agcctcgtgt acctgcgtcc tcggtccagc acctcagagg atgaggacag ccaaatcgcg 840
ttggtctaca cctttgtcac cccccttactc aacccctttgc tttacagcct taggaacaag 900
gatgtcaaag gtgctctgag gagtgccatt atccgtaaag cagcctctga cgccaac 957

<210> 495
<211> 624
<212> DNA
<213> Unknown (H38g344 nucleotide)

<220>
<223> Synthetic construct

<400> 495
atggagctgg agaatggcac tgtgaagact gggttctttc tcctgggatt cagcgaccat 60
ctggaacttc agagtctcct ttttgcagaa tttttttcca tctactctgt tactctgatg 120
gggaaccttg gaatgatttt attaatcaca atcagttccc acttgcacac tcctatgtac 180
tttttcctct gtgtgttgtc cttcatagat gcatgctact cttctgtcat tgctcccaaa 240
ttacttgtga acttggtttc tgaaaagaag accatttctt acaatggctg tgttgcacag 300
ttatatttct tctgctcttt agttgacaca gaatctttcc tcttggctgc catggcttaa 360
gaccggtaca tagcaatctg taacccgctg ctctatacag tgattatgtc caagaaggtt 420
tgttgccagc ttgcaattgg agcattttttg gggggcacta tgagctcaat tattcatacc 480
acgaacactt tccatctgtc attctgctcc agagatatta accatttctt ttgtgatatc 540
tccccactct tctctctgtc ctgcactgac acatacatgc atgacatcat tctggtggtc 600
tttgccagtt ttgtggaagc aatc 624

<210> 496
<211> 963
<212> DNA
<213> Unknown (H38g345 nucleotide)

<220>
<223> Synthetic construct

<400> 496
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cacacagagc cacggaatct cacaggtgtc tcagaattcc tcctcctggg actctcagag     60
gatccagaac tgcagcctgt cctccctggg ctgtccctgt ccatgtatct gctcacggtg    120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cacccccatg    180
tacttcttcc tctccaaccc gtcatgggct gacatcgctt tcacctcggc cacagttccc    240
aagatgattg tggacatgca gtcgcatagc agtcatctct tatgcaagct gcctgacaca    300
gatgtctttc tttgcccttt ttgcatgcat agaagatcat gctcctgatt gtgatggcct    360
atgaccgatt tgtagccgtc tgtcactccc cacactaccc agtcatcatg aatcctcgcc    420
tcggtgtctt cttcgttttg gtgtcctttt tccttagcct gttggattcc cagctgcaca    480
gttggactgt gttacaattc accttcttca agaatgtgga aatctctaat tttgtctgtg    540
acccatctca acttctcaac cttgcctgtt ctgacagcgt catcgatagc atattcatat    600
atttagatag tactatgttt cgttttcttc cgatttcagg gatccttttg tcttactcta    660
acattgtccc ctccattcta agaatttcat catcagatgg gaagtctaaa gccttctcca    720
cctgtcgctc tcacctggca gttgtttgct tattttatgg aacaggcatt ggcgtgtacc    780
tgacttcagc tgtggcacca cccccaggag tggtgtggtg gtgtcagtga tgtacactgt    840
ggtcaccccc atgctgaacc ctttcatcta ctgcctgaga aacagggaca ttcaaagcgc    900
cctgtggagg ctgcgcagca gaacagtcga atctcatgat ctgttccatc ctttttcttg    960
tgt                                                                  963
```

<210> 497
<211> 932
<212> DNA
<213> Unknown (H38g346 nucleotide)

<220>
<223> Synthetic construct

<400> 497
```
gaaaagaatc tcatctctat gaatgggttt atgaacttca ctgattaccc agagttggaa     60
atgcccttgt tcttagtgtt tctcagttgc ttcctggcca ttattttgag aaatatggaa    120
tgggtcattc tgacccaagt gaatgtgcat ctcttcaccc tatatacttc ttcctaacaa    180
atgtcaccct ttgggatacc tcagtcatca tgcctcagat cctggccatt ctggccacag    240
gcaagacaac catttcctat ggccgctaat aaaagcaatg aggtcctttt tcttcatttg    300
tgtaggaact tagtgtttcc tgccaacagc aatgaccata agcagcccac tgccccacac    360
tacaagccat gaacttcaag acatgttggg gttttttttt ggtggggatt tgttgttgta    420
catgctgggt tttgatggtg aacgtggtga atgcctacac ctgaggacta tcaggagcca    480
ctttcaacac catctgcaca tttgcccgct tcttctgtga tgacaattag atcaaattct    540
gtcacatcct gcccctgctg aagctcattt gaaatacttc aggaaacagc aagataatta    600
ttgtgatctt tgacagcttt tatgattata gctggcacta gggtcatcct gatctcttac    660
ctgctaatca tcagggcttt gaggatgaaa tcatcgagtg gcaaagccaa taattttatc    720
catccacttg tgcctcccac ctaactgcta tgaccttcct ttgggatccc catcttcaga    780
catgtgaagt acctcagata aatcactgac agaagacaag ttggcatcat gacttgcacc    840
atctttattc ctatgctaga acttttgatc caaagtctaa agaaggatat acaagttgcc    900
ttcaaaaagg ccataggtaa cttctgggtt tt                                  932
```

<210> 498
<211> 1005
<212> DNA
<213> Unknown (H38g347 nucleotide)

<220>
<223> Synthetic construct

<400> 498
tctacagacc cacagaatct aacagatgtc tctatattcc tcctccgaga acctcagagg 60
atccagaatg gcagctggtc cttgctgggt tgttcctgtc catgtgcctg gtaacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt 180
acttcttcct ctccaacctg tccttgcctg acatcggttt cacctccacc acggtagcca 240
agatgattgt ggacatccaa tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctcc ctttgccatt tttggagtca tggaagagag acacgctcct gagtgtgatg 360
gcctctgacc gctttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gctttctagt tttgttgtct tttttttttt tttctgtctt ttagatgccc 480
agctgcacaa cttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attcctaatt 540
tcttctgtga cccttctcaa ctcccccatc ttgcatgttg tgacaccttc accaataaca 600
taatcatgta tttccctgct gccatatttg gttttcttcc catctcgggt tcccttttct 660
cttactataa aattgtttcc tccattctga gggtttcatc atcaggtggg aagtattagg 720
ccttctcctc ctgttggtct cacctgtcag ttgtttgctg attttatgga acaggcgttg 780
gaggtacctc agttgagatg tgtcatcttc cccgaggaag gttgcagtgg cctcagtgat 840
gtacatggtg gtcacccta tgctgaaccc ctttgtctac agcctgagaa acaggatat 900
taaaagtgtc ctgcggtggc cgcacggcag cacggtctaa tctcaatatc ttcttatctg 960
ttccattcct tttgtagtgt aggttaaaaa ggcagcaagg tcaaa 1005

<210> 499
<211> 975
<212> DNA
<213> Unknown (H38g348 nucleotide)

<220>
<223> Synthetic construct

<400> 499
atgaagactt ttagttcctt tcttcagatc ggcagaaata tgcatcaagg aaaccaaacc 60
accatcactg aattcattct cctgggattt ttcaagcagg atgagcatca aaacctcctc 120
tttgtgcttt tcttgggtat gtacctggtc actgtgattg ggaacgggct catcattgtg 180
gctatcagct tggatacgta ccttcatacc cccatgtatc tcttccttgc caatctatcc 240
tttgctgata tttcctccat ttccaactca gtccccaaaa tgctggtgaa tattcaaacc 300
aagagtcaat ccatctctta tgagagctgc atcacacaga tgtacttttc tattgtgttt 360
gtcgtcattg acaatttgct cttggggacc atggcctatg accactttgt ggcgatctgc 420
caccctctga attatacaat tctcatgcgg cccaggttcg gcattttgct cacagtcatc 480
tcatggttcc tcagtaatat tattgctctg acacacaccc ttctgctcat ccaattgctc 540
ttctgtaacc acaacactct cccacacttc ttctgtgact tggcccctct gctcaaactg 600
tcctgttcag atacattgat caatgagctt gtgttgttta ttgtgggttt atcagttatc 660
atcttcccct ttacactcag cttcttttcc tatgtctgca tcatcagagc tgtcctgaga 720
gtatcttcca cacagggaaa gtggaaagcc ttctccactt gtggctctca cctgacagtt 780
gtattactgt tctacggaac cattgtaggc gtgtactttt tcccctcctc cactcacccct 840
gaggacactg ataagattgg tgctgtccta ttcactgtgg tgacacccat gataaacccc 900
ttcatctaca gcttgaggaa taaggatatg aaaggtgccc tgagaaagct catcaataga 960
aaaatttctt ccctt 975

<210> 500
<211> 768
<212> DNA
<213> Unknown (H38g349 nucleotide)

<220>
<223> Synthetic construct

<400> 500
atgtactttt tcctcagtca tctatccttt ttggatactt gttattccaa tgtatttaca 60
cccaaactgt tagagatttt ggttgtggaa gacagaacta tctccttcaa aggatgcatg 120
gtacaatttt tctttggttg tgcatttgta atcacagaaa tgttcatgtt agcggtgatg 180
gcttatgact tgtttatggc tgtttgtaac cccctgctct acacagtggc tatgtctcct 240
aagctctgtg ctctcctggt agctggaact tacacatggg gtggactctg ttccctgaca 300

ctcacttatt ctcttttggt gttatcctac tgtggatcta acatcataaa tcactttggc 360
tgtgagtact ctgccattct ttctctatcc tgctctgatc cctacttcaa ccagatggcg 420
tgtttagtca tttctatatt cagtgaagct tgtagcctcc tggccatcct tgccttctat 480
gtcttcatag ttgccactgt catcaagatg ctttctacgg gtggacccca aaaggccatc 540
tccacctgtg cctcccacct gaccaccgtc tccattttcc atggggtcat cctgctcctt 600
tactgtgtgc ccaactccaa aagctcatgg ctcctggtca aagtggctac tgtacttttt 660
acagtcataa tccctatgct gaatcccctg atctacagcc ttaggaacaa agatgtaaaa 720
gggaccgtca ggaagttgat aaactcccaa tcaccttttc actcaaaa 768

<210> 501
<211> 951
<212> DNA
<213> Unknown (H38g350 nucleotide)

<220>
<223> Synthetic construct

<400> 501
atggcagaga gtggcaccac ggtgacagaa tttttctga ggggttccg gttgaaggca 60
gagctgcaga taggtctctt ctttgtgttt ctggtcattt ttctcatcac catgggggc 120
aacctgggca tgattgtgct aatttaattc agactgaccc tcggctccag actcccatgt 180
acttcttcct cagtcatctt tccttcctgg acatttgcta ctcttctgtt attggtcctc 240
agttgcttga gactttggga ctgataagat gatcatcacc tatgagcgct gtgccagcca 300
attcttcttt ttcacactct gtgctagcat tgagtgtttc cttttggctg tgatggctta 360
tgaccggtac gtggctgtgt gtaacccccct cctctatgcc atagtcatga caccaaagac 420
ccgcctggcg ctgctggccg gggcatattc tggtgccata gtcaattctg tgatctgcac 480
tggctgcacc ttctctatct ccttctctaa gtccaaccat gtagacttct ttttctgtga 540
cctcccaccc ctgctgaagc ttgcctgtag tgaaaccagg ccacgggaat gggtaatcta 600
cctctcagct ttctggtca tcacaaccag catttcagtg attcttacat cgtacttgtt 660
catcattcag tctgttctga agattcgtac agcaggtgga aagccaagac cttctccacc 720
tgtgcttctc acatgactgc attgactctc ttctttggaa cactcatatt catatacctg 780
aaaggcaaca tgggcgaatc ccttgaggaa gacaagatcg tgtcaatatt ttacactgtg 840
gtcatcccca tgctaaatcc aatgatctac agcctgagaa acaaagacat gaaagaggct 900
ctgaagaaag ttttcaacag gataagggtt tcccaagcag agtaactctt g 951

<210> 502
<211> 939
<212> DNA
<213> Unknown (H38g351 nucleotide)

<220>
<223> Synthetic construct

<400> 502
atgctgctga cagatagaaa tacaagtggg accacgttca ccctcttggg cttctcagat 60
tacccagaac tgcaagtccc actcttcctg gtttttctgg ccatctacaa tgtcactgtg 120
ctagggaata ttgggttgat tgtgatcatc aaaatcaacc ccaaactgca tacccccatg 180
tactttttcc tcagccaact ctcctttgtg gatttctgct attcctccat cattgctccc 240
aagatgttgg tgaaccttgt tgtcaaagac agaaccattt catttttagg atgcgtagta 300
caattctttt tcttctgtac ctttgtggtc actgaatcct tttattagc tgtgatggcc 360
tatgaccgct tcgtggccat ttgcaacccct ctgctctaca cagttgacat gtcccagaaa 420
ctctgcgtgc tgctggttgt gggatcctat gcctggggag tctcatgttc cttggaactg 480
acgtgctctg ctttaaagtt atgttttcat ggtttcaaca caatcaatca cttcttctgt 540
gagttctcct cactactctc cctttcttgc tctgatactt acatcaacca gtggctgcta 600
ttctttcttg ccacctttaa tgaaatcagc acactactca tcgttctcac atcttatgcg 660
ttcattgttg taaccatcct caagatgcgt tcagtcagtg ggcgccgcaa agccttctcc 720
acctgtgcct cccacctgac tgccatcacc atcttccatg gcaccatcct cttcctttac 780
tgtgtgccca actccaaaaa ctccaggcac acagtcaaag tggcctctgt gttttacacc 840
gtggtgatcc ccatgttgaa tcccctgatc tacagtctga gaaataaaga tgtcaaggat 900
acagtcaccg agatactgga caccaaagtc ttctcttac 939

<210> 503
<211> 932
<212> DNA
<213> Unknown (H38g352 nucleotide)

<220>
<223> Synthetic construct

<400> 503
atggctgaaa ggaattacac cgtagtgacg gagttcttcc ttactgcatt tactgaacat 60
ctccagtgga gggttcctct cttcctcata tttttgagtt tctatcttgc cactatgtta 120
gggaacacag gcatgatcct cctgatccgt ggcgatcgtc ggctccacac cccgatgtac 180
ttcttcctca gccacctttc cttggtggac atctgctact cgtccgccat catccctcag 240
atgctggctg tgctgtggga gcacggcaca accatctccc aggctcgctg tgcagctcag 300
ttcttcctct tcaccttctt tgcctccatc gactgctacc ttctggccat catgcctatg 360
accgctacac ggccgtgtgc agcccctgct ttatgtcacc atcataaccg agaaggaccg 420
ctgggcctag tcactggggc ttacgttgct ggttttttca gtgcctttgt tcgacggtca 480
cagccttcac tctctccttt tgtggaaaca atgagatcaa cttcattttc tgtgacctcc 540
ctcctctatt aaaactctcc tgtggggaca gctacactca ggaagtggtg attattgtgt 600
ttgctctttt cgtcatgcct gcctgtatct tggtgatctt ggtatcctac ctgtttatca 660
ttgtggccat cctgcagatc cactctgctg gaggccgggc caagaccttc tccacctgcg 720
cctcccacct cactgccgtc gctcttttct ttggcaccct catcttcatg tacctgcgag 780
acaacacagg ccagtcctcc gagggagacc gagtggtgtc tgtgctctac acggtggtga 840
ccccaatgct gaatcccctt atctatagcc tgagaaacaa ggaggtaaaa gaggccacta 900
ggaaagccct gagcaaatca aagcctgcta ga 932

<210> 504
<211> 762
<212> DNA
<213> Unknown (H38g353 nucleotide)

<220>
<223> Synthetic construct

<400> 504
atgtactatt tcctctccat gctgtccgcc actgacctcg gcctgtccat atccactctg 60
gtcaccatgc tgagtatatt ctggttcaat gtgagggaaa tcagctttaa tgcctgcttg 120
tcccacatgt tctttattaa attcttcact gtcatggaat cctcagtgct gttggccatg 180
gcttttgatc gttttgtggc cgtctctaat ccccttaggt atgccatgat tttaactgac 240
tccagaatag ctcaaattgg agtggcaagt gtcatcaggg ggctcctaat gctgacacca 300
atggtagcac ttcttataag actttcctac tgccacagcc aagtactcca ccactcctac 360
tgctaccacc ctgatgtgat gaagctctca tgcacagaca ccagaatcaa cagtgcagtt 420
gggctgactg ccatgttctc tactgttggt gtagacttac ttctcatcct cctttcttat 480
gttttgatca ttaggactgt ccttagcgtt gcttccccag aagagaggaa ggaaaccttc 540
agtacatgtg tctcccacat tgtggctttt gctatatatt acattccatt gatcagtctg 600
tccattgttc acagatttgg gaaacaagcc ccagcctatg tacatactat gattgctaac 660
acctacctgc tgatctcccc tttgatgaac cctgtcatct acagtgtgaa aaccaaacag 720
atacgtagag ctgtgataaa aattctccat tccaaagaaa ca 762

<210> 505
<211> 565
<212> DNA
<213> Unknown (H38g354 nucleotide)

<220>
<223> Synthetic construct

<400> 505
atggactggg aaaattgctc ctcattaact gattttttc tcttgggaat taccaataac 60
ccagagatga aagtgaccct atttgctgta ttcttggctg tttatatcat taatttctca 120
gcaaatcttg gaatgatagt tttaatcaga atggattacc aacttcacac accaatgtat 180

```
ttcttcctca gtcatctgtc tttctgtgat ctctgctatt ctactgcaac tgggcccaag     240
atgctggtag atctacttgc caagaacaag tcaataccct tctatggctg tgctctgcaa     300
ttcttggtct tctgtatctt tgcagattct gagtgtctac tgctgtcagt gatggccttt     360
gatcggtaca aggccatcat caacccccctg ctctatacag tcaacatgtc tagcagagtg    420
tgctatctac tcttgactgg ggtttatctg gtgggaatag cagatgcttt gatacatatg     480
acactggcct tccgcctatg cttctgtggg tctaatgaga ttaatcattt cttctgtgat     540
atcccctcct ctcttattac tctct                                           565
```

<210> 506
<211> 978
<212> DNA
<213> Unknown (H38g355 nucleotide)

<220>
<223> Synthetic construct

<400> 506

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ctcaatttca ttatcttctt caggtgaacc agctatattg agcctatggc caaaagaaat      60
ctcagcactg tgacagagtt cattcttgta gtcttcacag atcaccctga actggcagtt     120
ccactcttcc tagtgtttct cagtttctat cttgtcactt ttctggggaa tgggggggatg    180
atcattctaa tccaagtgga tgcccaactc cacacccccg tgtacttctt cctgagccac     240
cttgctttcc tggatgcctg ctgtgcctca gtaatcaccc ctcagattct ggccacactg     300
gccacagaca agacagttat ctcctatggc tgccgtgctg tgcagttctc tttcttcacc     360
atatgtgcag gcacagagtg ttacctgctg tcagtgatgg cctatgaccg ctttgttgcc     420
attagcaatc cactgcactg taacatgacc atgactccag gtacctgcag ggtctttttg     480
gccagtgcct tcatctgtgg ggtgtcaggg gccattctgc ataccacgtg caccttcacc     540
ctctccttct gttgtgacaa tcagatcaac ttcttcttct gtgacctccc accccctgctg    600
aagctcgcct gcagcagcat gacacaaact gagattgtca ttctcctttg tgcaaaatgc     660
atgttcctag ccaatgtcat ggttatcctg atctgctaca tgctcattat cagagccatt     720
ttgagggtga agtcggcagg tgggtaagcc aagaccttct ccacctgcac ctcccatctc     780
accactgttg tcctcttctt tgggacactt gccttcatgt accagagaag taactccgcc     840
aaatcctcag aggaagacaa gatagtgtct gtcttttaca ctgtaatcat ccctatgttg     900
aacccccttga tctacagtct gaggaacaaa gatgtaaaag ctgcatttgg aaaactcgtt    960
ggtaaattcc aatttcca                                                   978
```

<210> 507
<211> 983
<212> DNA
<213> Unknown (H38g356 nucleotide)

<220>
<223> Synthetic construct

<400> 507

```
atgctccctt cccagaccta tgtcaacatc tccttcttcc aaccgcctgc tcttctcatg      60
attggcatcc cagggctgga ggcggttcat ggctggctcg ccatcccctt ctcctccatg     120
tacactgtgg ccctccctgg gaactgcctg atcctcctgg ctgtgaagag gaaccccagc     180
ctgcaccagc ccatgtgcta cttcctgtcc atgctggcgc tccccaaagc gggcctcacc     240
ttgtccacac tgcccatcac cttggctgtg ctctggtttg accaccggct catgggcttc     300
aatgcctgcc tggtccagat gttcttcctg cactcctctg tggtggagtc ctcagtgctc     360
ctggccatat cctttgacca ctttgtggcc atctccaacc ccctgcacta tgcagctgtc     420
ctcacaaata gtgtcatcat caggattggg ctggccattg tggctcaagt taccttgtgc     480
ctcttcctgt gccatttccg gttaagagtc taaatttctg ccctggtgat aacatcccat     540
cccactcgtt ctgtttccac cctgatgtaa tgaggcgggc ctgtgcggac atcacgatca     600
atatatgcta tggggtctac gtggttgttt ctacaggggg cttagactcg ctgctcatct     660
ttctgtccta taccttcatc ctgcacacag tcatgggtct ggctgctccc agggagcgca     720
tctgggccct caacacctgc gtttccccaca ttccggctgt ctttgtcttc tttattccag    780
gtatcaccgt gtccatgatc caccattttg ggaggcacct gccccacatt gtacatgctc     840
ttgttaccta tgtgtacctg gtgatgcctt ctgtgctcca ccccatcatt tacagtatga     900
agtccaagcc catcagggag gccatcctca ggatgctgat ggggagaagc caaggctgat     960
gaaattacaa aatattatag ggt                                             983
```

<210> 508
<211> 933
<212> DNA
<213> Unknown (H38g357 nucleotide)

<220>
<223> Synthetic construct

<400> 508
```
atgggcaagg aaaactgcac cactgtggct gagttcattc tccttggact atcagatgtc      60
cctgagttga gagtctgcct cttcctgctg ttccttctca tctatggagt cacgttgtta     120
gccaacctgg gcatgattgc actgattcag gtcagctctc ggctccacac ccccatgtac     180
tttttcctca gccacttgtc ctctgtagat ttctgctact cctcaataat tgtgccaaaa     240
atgttggcta atatctttaa caaggacaaa gccatctcct tcctagggtg catggtgcaa     300
ttctacttgt tttgcacttg tgtggtcact gaggtcttcc tgctggccgt gatggcctat     360
gaccgctttg tggccatctg taaccctttg ctatacacag tcaccatgtc ttggaaggtg     420
cgtgtggagc tggcttcttg ctgctacttc tgtgggacgg tgtgttctct gattcatttg     480
tgcttagctc ttaggatccc cttctataga tctaatgtga ttaaccactt tttctgtgat     540
ctacctcctg tcttaagtct tgcttgctct gatatcactg tgaatgagac actgctgttc     600
ctggtggcca ctttgaatga gagtgttacc atcatgatca tcctcacctc ctacctgcta     660
attctcacca ccatcctgaa gatgggctct gcagagggca ggcacaaagc cttctccacc     720
tgtgcttccc acctcacagc tatcactgtc ttccatggaa cagtcctttc catttattgc     780
aggcccagtt caggcaatag tggagatgct gacaaagtgg ccaccgtgtt ctacacagtc     840
gtgattccta tgctgaactc tgtgatctac agcctgagaa ataaagatgt gaaagaagct     900
ctcagaaaag tgatgggctc caaaattcac tcc                                  933
```

<210> 509
<211> 621
<212> DNA
<213> Unknown (H38g358 nucleotide)

<220>
<223> Synthetic construct

<400> 509
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cccccctctgc gatgggggtc ctaagagcca gcggaggaag aggggctggc tctcagttcc      60
cgcctttttt ttttttctca gtgttttaga cgcccagctg cacaacttga ttgccttaca     120
aatgacctgc ttccaggatg cggaaattcc taatttcttc tgtgaccctt ctcaactccc     180
ccatcttgca tgttgtgaca ccttcaccaa taacataatc atgtatttcc ctgctgtcat     240
atttggtttt cttcccatct ctgggaccct tttctcttac tataaaattg tttcctccat     300
tctgagtgtt tcatcatcac gtgggcagta taaggccttc tccacctgtg ggtctcacct     360
gtcagttgtt tgctgatttt acggaacggg cgttggagga tacttcagtt cagatgtgtc     420
atcttccccg agaaaggctg cagtggcctc agtgatgtac acggtgatca ccccatgctg     480
aacccccttca tctacagcct gagaaacagg catattaaaa gtgtcctgcg gcggccgcac     540
agcagcaccg tccaatctcc gtgtcttctt aactgttcca ttcctttttgt agtgtgggtt      600
aacaaaggca gcaaggtcaa a                                               621
```

<210> 510
<211> 633
<212> DNA
<213> Unknown (H38g359 nucleotide)

<220>
<223> Synthetic construct

<400> 510
```
atttgactga aattgatctt tggaaatcct agatagtaat agattttcag atgtgtctat      60
gattattttg tgggactgtc aacccttgct ttatgacacc atcacaactc tcaagatgtc     120
tggcagaagc tggtgactgc atattgtaga gggtttgaca aatgtaatcc aatgtataca     180
cttcacctgc tcactctcct tttgtgcctt catctatagg tttcactctc tgtgacctcc     240
```

attgctgctg accctgaatt gggtgatagc ttcctccagc agctgctgat ttttcacttt 300
gctctgtata tgattctgac cagactagtt ttgatcctgt tctctgactt gttcatcagc 360
aaggccatct aaacacctgc aaatcaggtc tctaggcaaa gattcctcaa ccttttctа 420
cctttgcctc atgcagaact gcagttcggt tgattgttga gactacagct ttgatctatg 480
tgtgcagcag taggcaagtc ccttacaggg gagagggccg tgaccatgtt ttagactgta 540
gtgaacacca ggctgaccat tccaatttta tagcctgagg aaaaaaaggc aaaggaggcc 600
ctgaggaaag gtcttaataa agccaagttg ttc 633

<210> 511
<211> 945
<212> DNA
<213> Unknown (H38g360 nucleotide)

<220>
<223> Synthetic construct

<400> 511
atgagttcct gcaacttcac acatgccacc tttgtgctta ttggtatccc aggattagag 60
aaagcccatt tctgggttgg cttccccctc ctttccatgt atgtagtggc aatgtttgga 120
aactgcatcg tggtcttcat cgtaaggacg gaacgcagcc tgcacgctcc gatgtacctc 180
tttctctgca tgcttgcagc cattgacctg gccttatcca catccaccat gcctaagatc 240
cttgcccttt tctggtttga ttcccgagag attagctttg aggcctgtct tacccagatg 300
ttctttattc atgccctctc agccattgaa tccaccatcc tgctggccat ggcctttgac 360
cgttatgtgg ccatctgcca cccactgcgc catgctgcag tgctcaacaa tacagtaaca 420
gcccagattg gcatcgtggc tgtggtccgc ggatccctct ttttttcccc actgcctctg 480
ctgatcaagc ggctggcctt ctgccactcc aatgtcctct cgcactccta ttgtgtccac 540
caggatgtaa tgaagttggc ctatgcagac actttgccca atgtggtata tggtcttact 600
gccattctgc tggtcatggg cgtggacgta atgttcatct ccttgtccta ttttctgata 660
atacgaacgg ttctgcaact gccttccaag tcagagcggg ccaaggcctt tggaacctgt 720
gtgtcacaca ttggtgtggt actcgccttc tatgtgccac ttattggcct ctcagtggta 780
caccgctttg gaaacagcct tcatcccatt gtgcgtgttg tcatgggtga catctacctg 840
ctgctgcctc ctgtcatcaa tcccatcatc tatggtgcca aaaccaaaca gatcagaaca 900
cgggtgctgg ctatgttcaa gatcagctgt gacaaggact tgcag 945

<210> 512
<211> 834
<212> DNA
<213> Unknown (H38g361 nucleotide)

<220>
<223> Synthetic construct

<400> 512
atgtatgcct tggccaccct gggtaacctg accattgtcc tcatcattcg tgtggagagg 60
cgactgcatg agcccatgta cctcttcctg gccatgcttt ccactattga cctagtcctc 120
tcctctatca ccatgcccaa gatggccagt cttttcctga tgggcatcca ggagatcgag 180
ttcaacattt gcctggccca gatgttcctt atccatgctc tgtcagccgt ggagtcagct 240
gtcctgctgg ccatggcttt tgaccgcttt gtggccattt gccacccatt gcgccatgct 300
tctgtgctga cagggtgtac tgtggccaag attggactat ctgccctgac caggggggttt 360
gtattcttct tcccactgcc cttcatcctc aagtggttgt cctactgcca aacacatact 420
gtcacacact ccttctgtct gcaccaagat attatgaagc tgtcctgtac tgacaccagg 480
gtcaatgtgg tttatggact cttcatcatc ctctcagtca tgggtgtgga ctctctcttc 540
attggcttct catatatcct catcctgtgg gctgttttgg agctgtcctc tcggagggca 600
gcactcaagg ctttcaacac ctgcatctcc cacctctgtg ctgttctggt cttctatgta 660
cccctcattg ggctctcggt ggtgcatagg ctgggtggtc ccacctccct cctccatgtg 720
gttatggcta atacctactt gctgctacca cctgtagtca accccttgt ctatggagcc 780
aagaccaaag agatctgttc aagggtcctc tgtatgttct cacaaggtgg caag 834

<210> 513
<211> 957
<212> DNA

<213> Unknown (H38g362 nucleotide)

<220>
<223> Synthetic construct

<400> 513
atgctgggtc cagcttacaa ccacacaatg gaaacccctg cctccttcct ccttgtgggt 60
atcccaggac tgcaatcttc acatctttgg ctggctatct cactgagtgc catgtacatc 120
acagccctgt taggaaacac cctcatcgtg actgcaatct ggatggattc cactcggcat 180
gagcccatgt attgctttct gtgtgttctg gctgctgtgg acattgttat ggcctcctcc 240
gtggtaccca agatggtgag catcttctgc tcgggagaca gctccatcag ctttagtgct 300
tgtttcactc agatgttttt tgtccactta gccacagctg tggagacggg gctgctgctg 360
accatggctt ttgaccgcta tgtagccatc tgcaagcctc tacactacaa gagaattctc 420
acgcctcaag tgatgctggg aatgagtatg gccgtcacca tcagagctgt cacattcatg 480
actccactga gttggatgat gaatcatcta cctttctgtg gctccaatgt ggttgtccac 540
tcctactgta agcacatagc tttggccagg ttagcatgtg ctgaccccgt gcccagcagt 600
ctctacagtc tgattggttc ctctcttatg gtgggctctg atgtggcctt cattgctgcc 660
tcctatatct taattctcag ggcagtattt gatctctcct caaagactgc tcagttgaaa 720
gcattaagca catgtggctc ccatgtgggg gttatggctt tgtactatct acctgggatg 780
gcatccatct atgcggcctg gttggggcag gatatagtgc ccttgcacac ccaagtgctg 840
ctagctgacc tgtacgtgat catcccagcc actttaaatc ccatcatcta tggcatgagg 900
accaaacaat tgctggaggg aatatggagt tatctgatgc acttcctctt tgaccac 957

<210> 514
<211> 966
<212> DNA
<213> Unknown (H38g363 nucleotide)

<220>
<223> Synthetic construct

<400> 514
atgaatgaga caaatcattc ttgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttata ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac ccccatgtac 180
tttctgcttg caaacctgtc atttatagac gtatgtgttg cctcttctgc taccccctaaa 240
atgattgcag actttctggt tgagcacaag actatttctt ttgatgccca cctggcccag 300
attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctccc cactacatga caatcatgag ctgctgtgta 420
tgtgttgtgc tcgtcctcat ttcctggttt gtgggcttca tccataccac cagccagttg 480
gcattcacgt taatctgcca ttttgtggtc ctaataaggt agatagtttt tttctgtgac 540
cttcctctag cgacgaagtt agcctgcata gacacttatg ttgtcagcct actaatagtt 600
gcagatagtg gctttctttc tctgagttcc tttctcctct tggttgtctc ctacactgta 660
atacttgtta cagttaggaa tcgctcctct gtaagcatgg tgaaggccca ctccacattg 720
actgctcaca tcactgtggt cactttattc tttggatcgt gtattttcat ctatgtgtgg 780
cccttcagca gttactcagt tgacaaagtc cttgctgtat tctacaccat cttcacgtct 840
attttaaacc ctgtaatcta catgctaaga aacaaagaag tgaaggcagc tatgtcaaaa 900
ctgaagagtc ggtatcagaa gcttggtcag gtttctgtag tcataagaaa cgttcttttc 960
ctagaa 966

<210> 515
<211> 966
<212> DNA
<213> Unknown (H38g364 nucleotide)

<220>
<223> Synthetic construct

<400> 515
atgctgggtc cagcttataa ccacacaatg gaaacccctg cctccttcct ccttgtgggt 60
atcccaggac tgcaatcttc acatctttgg ctggctatct cactgagtgc catgtacatc 120

atagccctgt taggaaacac catcatcgtg actgcaatct ggatggattc cactcggcat 180
gagcccatgt attgctttct gtgtgttctg gctgctgtgg acattgttat ggcctcctcg 240
gtggtaccca agatggtgag catcttctgc tcaggagaca gctcaatcag ctttagtgct 300
tgtttcactc agatgttttt tgtccactta gccacagctg tggagacggg gctgctgctg 360
accatggctt ttgaccgcta tgtagccatc tgcaagcctc tacactacaa gagaattctc 420
acgcctcaag tgatgctggg aatgagtatg gccatcacca tcagagctat catagccata 480
actccactga gttggatggt gagtcatcta cctttctgtg gctccaatgt ggttgtccac 540
tcctactgtg agcacatagc tttggccagg ttagcatgtg ctgaccccgt gcccagcagt 600
ctctacagtc tgattggttc ctctcttatg gtgggctctg atgtggcctt cattgctgcc 660
tcctatatct taattctcaa ggcagtattt ggtctctcct caaagactgc tcagttgaaa 720
gcattaagca catgtggctc ccatgtgggg gttatggctt tgtactatct acctgggatg 780
gcatccatct atgcggcctg gttggggcag gatgtagtgc ccttgcacac ccaagtcctg 840
ctagctgacc tgtacgtgat catcccagcc accttaaatc ccatcatcta tggcatgagg 900
accaaacaac tgcgggagag aatatggagt tatctgatgc atgtcctctt tgaccattcc 960
aacctg 966

<210> 516
<211> 942
<212> DNA
<213> Unknown (H38g365 nucleotide)

<220>
<223> Synthetic construct

<400> 516
atggaggggt tcaactattc cagagtatct gaattcatgt tacttggact tactgattct 60
cctgaactcc agatattctt ttctgtggtg ttttctgtct tctatttaat gaccatgttg 120
ggcaactgcc tgattttgct cactgtccta tccacctcac accttcactc tcgcatgtac 180
ttcctgctca gcaacatgtc tcattgacat gtgcctgtcc tcctttgcca caccaaagat 240
gattatggac tttttgctc tgcgtaagac catctctttt gaaggctgca tttctcagat 300
ctttttttta cacctcttca atgggactga gattgtgctg ttgatctcca tgtcttttga 360
caggtatatt gccatatgta aacctctcca ctattcaaca attatgagcc aaagagtgtg 420
tgttgagctt gtggcagttt cttgttggac agtgggcttt ctacatacaa tgagccaatt 480
agtttttccc tctatttgcc cttctgtgtt cccaatgttg tagacagttt tttctgtgat 540
cttcctttgg tcatccagtt agcttgtata gatatttatg ttcttgggac ctccatgatt 600
tcaaccagtg gtgtgattgc tcttataagt tttctgcttt tgctcacctc ctacatcatt 660
gttcttaata ttgtcaggga ctactcctcc acaggatcct ccaaggctct ttctacctgt 720
acagcgcatt ttattgttgt gttaatgttc tttgggccct gtattttcat ttatgtgtgg 780
ccttccacaa acttcctggt agacaaaatt ctctccgttt tctataccat cttcactccc 840
tttctgaatc cacttatcta tactttgaga aaccaggaag tgaagacagc aatgaagaag 900
aaactgaata ttcagtattt cagtcttggg aaaactgctc cg 942

<210> 517
<211> 952
<212> DNA
<213> Unknown (H38g366 nucleotide)

<220>
<223> Synthetic construct

<400> 517
atgctcactt ttcataatgt ctgctcagta cccagctcct tctggctcac tggcatccca 60
gggctggagt ccctacacgt ctggctctcc atccccttg gctccatgta cctggtggct 120
gtggtgggga atgtgaccat cctggctgtg gtaaagatag aacgcagcct gcaccagccc 180
atgtactttt tcttgtgcat gttggctgcc attgacctgg ttctgtctac ttccactata 240
cccaaacttc tgggaatctt ctggttcggt gcttgtgaca ttggcctgga cgcctgcttg 300
ggccaaatgt tccttatcca ctgctttgcc actgttgagt caggcatctt ccttgccatg 360
gcttttgatc gctacgtggc ccatctgcaa ccccactacgt catagcatgg tgctcactta 420
tacagtggtg ggtcgtttgg ggcttgtttc tctcctccgg ggtgttctct acattggacc 480
tctgcctctg atgatccgcc tgcggctgcc cctttataaa acccatgtta tctcccactc 540
ctactgtgag cacatggctg tagttgcctt gacatgtggc gacagcaggg tcaataatgt 600

ctatgggctg agcatcggct ttctggtgtt gatcctggac tcagtggcta ttgctgcatc 660
ctatgtgatg attttcaggg ccgtgatggg gttagccact cctgaggcta ggcttaaaac 720
cctggggaca tgcgcttctc acctctgtgc catcctgatc ttttatgttc ccattgctgt 780
ttcttccctg attcaccgat ttggtcagtg tgtgcctcct ccagtccaca ctctgctggc 840
caacttctat ctcctcattc ctccaatcct caatcccatt gtctatgctg ttcgcaccaa 900
gcagatccga gagagccttc tccaaatacc aaggatagaa atgaagatta ga 952

<210> 518
<211> 301
<212> DNA
<213> Unknown (H38g367 nucleotide)

<220>
<223> Synthetic construct

<400> 518
cagatgctga cagattggtg gggacctaat aggaccacaa gttacgtgaa ctcaccattc 60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt 120
atatgccatc ctttgtaata tttgttaatc atgaacctat atctcctcct taatcttact 180
ttaatacttg agggataatt cattcatttt tggcatcatg tatactctca tcctaaaaat 240
tccaaggatg aaaaaaaaaa accttcagat aattcccctc attggttgct gccttgctga 300
a 301

<210> 519
<211> 506
<212> DNA
<213> Unknown (H38g368 nucleotide)

<220>
<223> Synthetic construct

<400> 519
aatagtgagt ccaagcattt cttactctta aaattgtgtt caatgtttgc agtcactttc 60
ctatccctga tattatcagg aaagggcctg caatttcctt tctacttctc tgagtcaact 120
gcaaagtctc agatgttttc acagttgaga caagagaaca agaagcacca atgaaaacca 180
cggggttcta tggaggcatc atggtgtggt gagtagaagc atgctactct agctgtatct 240
cactgggttc aaatcctgac tatacggcat atggtgcatt aacagcccgc tgaccacaag 300
aatttctatg ctggtaaaat aggtttataa taatgccagt caatctaaag atgctttaag 360
tgaagactat ttggtgtttt tcaaggactc aataatcatt aactgtgatc acgatctttc 420
ccttacctac tttcaataag taaataattt acatttatta aacaaaagaa atttaatctt 480
gcttttctga aacaacacaa ttctat 506

<210> 520
<211> 837
<212> DNA
<213> Unknown (H38g369 nucleotide)

<220>
<223> Synthetic construct

<400> 520
ctccctcccc tgttttttag agtttttgta attttggttt gtttcactac tctttgttaa 60
gctatgcatt ctctttctaa ttattctact tgttaaattt ttattaaaaa caaaaatagc 120
aatgacatat tttacatatt tatctaatta taagctcaaa gcatgaaata gtattgactt 180
ccacatacat atgtttgtgt acgtgtatat tatgaataaa ttagttcatc tcaaatatga 240
aactttaaca tctttaccat ttttttggaa tagtctagga ttttagacac ttcttaattt 300
tgttttacct tttatgtcac atattcttca ttaatagtta ttaatatgtt gtattttcta 360
gctgttcttg caaaaagtag ttttatttta tgtttcaaca gtctcagcgt caactgtgac 420
actttctgtg tttggctttc ttgttttgga attgtttatc ttgatgtgca tcccattgca 480
cattgttatg tttctcaaaa gattatttaa atgttatgtg tttttatgat cactcgtttt 540
ttgcttcatg catgcattat tgccttaaac attaaaaaat acttgttttg atgtgctttt 600

tatctttata tgtgaaaaat ctttgctggc taatatgtct tttgtcacaa ttgtttcctc 660
cttaattctc ttaacgaatt aagagattat ttcattttct tctgtcattt tatgtggtac 720
aatacatctg aatctgtcct cattttcctt acataggttt ttcattttct ttttctgctt 780
gaaattgcca acatatatct aaatgttgac ctacttagta ttatactgac tttggta 837

<210> 521
<211> 461
<212> DNA
<213> Unknown (H38g370 nucleotide)

<220>
<223> Synthetic construct

<400> 521
tgcaccatgt gtgtttggct cttagcttga gacaggcaaa tccacataca ctcacattcc 60
aacaagccaa agcaagtcac ccaccccatt gcttctggga caaggatgta cattcctcct 120
gggcgtgggg gtgcgggtac cgcaagggga ataaattttt cctgagctac gatacactct 180
cccaccaaaa gtcatacacc catttagata acaacttttc ttgagtagtt cagatatcat 240
caatgatcca catattgata aacatgactc gacactaata acactgtgag cattttacac 300
tattttctat aaactccact atgctccatt tattctcaga aattctctct atgatatact 360
tcatgggcac aaagaagaat gagtgaaagc cacgcaaaaa ggactgtgaa agccactaaa 420
aagggctgga ataaatggga caaatcatca tactcttcta t 461

<210> 522
<211> 554
<212> DNA
<213> Unknown (H38g371 nucleotide)

<220>
<223> Synthetic construct

<400> 522
cctgctcacc cccgttcccc ccaccaccct ctctttcccc cttacatcta cccaaaaact 60
ttttccccac catctttccg caaaaccttc tctccctcct gttcaccacc gtttttcccc 120
ctccacctac ccccaacatt ttttccccac cgtcttttcc tcactgtctt ttttgcaaca 180
ccttctcctg ctcgccatcc tcttttccct ttggcactaa ccaccctctt tactcctcca 240
tctaccccaa aactattttc cccttcctac cgctccagcc acactgcagt ctccgtcgct 300
gccaccaacc gcagcgaggc gagctgtggt gccgcagcca cagcctccag catgcagcgg 360
tggctagccc ttgtcctggt cctctaagcc gggaacggag cagccccgcg cgcagacacg 420
catgagccta gaacggcctg acaccccttc agcaccattt atatactgag gttatgcata 480
tgaggttcct ggactacatg ttccaggatt gggtaagaga aaacgcagag gcctactctg 540
attggacttt gtta 554

<210> 523
<211> 424
<212> DNA
<213> Unknown (H38g372 nucleotide)

<220>
<223> Synthetic construct

<400> 523
tatatagaaa tggacaacta ttttctaaca taactataac gatatttact atttttccat 60
tttataatct ctactcaata ttttggtatt aaaaaattca tcctaacttc tttgttggct 120
tattgttttt gatgttcagc attactaaat ttttgactta tggtttgaaa tggctgctca 180
ttcctgattg ctgatcctgg tatcaacatg cctgatttaa cccttaacaa attctattct 240
tacaaaatag ctgaagttgg ttggaggttt atttttacca tttcttttat ttgctgtccc 300
ttttgataaa attattttcc ttagttaaaa aatgtattta aataagtaaa taatatctgt 360
gctagttggt actcggtgga catttcagag gtgtgtccat actttatgta ttttatcact 420
gttt 424

<210> 524
<211> 246
<212> DNA
<213> Unknown (H38g373 nucleotide)

<220>
<223> Synthetic construct

<400> 524
aatgtattta ggtaatttct tgacttctgc agggactctg atatacacag agcgtacctg 60
tgtatactgt ccagttagct cagattctca gttttgggca ttttctaagg gagggcaatg 120
aacatcctga taggtttaac taaggtttta aaatgtccaa ttttatgtgt ggtttttaac 180
cacacctgca tcctaattac gaccttggct gttatagctt ataggtttag gcaatctgga 240
tatagt 246

<210> 525
<211> 619
<212> DNA
<213> Unknown (H38g374 nucleotide)

<220>
<223> Synthetic construct

<400> 525
gaaattatat tgattgggat ttctctcaaa ctaatctagt tgtattcacc attattaaaa 60
ttaagtgaca ctcaattgga ctaagtagca ataaaaatat gagacttcct agtgattttt 120
ttttatccca agccatttac tactgatggg ccttgatgtg tgtgcttgaa aacaaaacat 180
atgcaagtgt tagactggtt tgaagatttg ggtggtgaaa gttagctaat tagatgtcag 240
tgctctatct agaagccaat cttggaaata tgtgataatg ccctttttaaa atagctgaaa 300
agaaattatt ttgtgtttgt tttcacttca ttcttgtttg gttgtatagc atttaagtga 360
aaggagattt tttatcctta tactagtatt tgcatttacc atcttttaat gatggagaga 420
aaagttagtt gtcttacttt gatatgtttg gcataggacc tatgacactt ttgatgtttt 480
tggtcacagt tctgtcacta gaatgctagc aattagatat atgcaatgag taacctactt 540
taatacaatg gtttgaagta ccacaggcag taactcctaa acaccaaatc acagtgtttt 600
aatttgtaac atgttaaag 619

<210> 526
<211> 939
<212> DNA
<213> Unknown (H38g375 nucleotide)

<220>
<223> Synthetic construct

<400> 526
atgagaaatt tgagtggagg ccatgtcgag gagtttgtct tggtgggttt ccctaccacg 60
cctcccctcc agctgctcct ctttgtcctt ttttttgcaa tttaccttct gacattgttg 120
gagaatgcac ttattgtctt cacaatatgg cttgctccaa gccttcatcg tcccatgtac 180
tttttccttg gccatctctc tttcctggag ctatggtaca tcaatgtcac cattcctcgg 240
ctcttggcag cctttcttac ccaggatggt agagtctcct acgtaggttg catgacccaa 300
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gatcgctacc tggccatctg tggacccctc ctttacccta gtctcatgcc ttccagtctg 420
gccactcgcc ttgctgctgc ctcttggggc agtggcttct tcagctccat gatgaagctt 480
ctttttattt cccaattgtc ctactgtgga cccaacatta tcaaccactt tttctgtgat 540
atttccccac tactcaacct cacctgctct gacaaggagc aagcagagct agtagacttc 600
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atcattgcag ccatcctgag gatccctacg tccaggggac gccacaaagc cttttccact 720
tgtgccgctc atctggcagt ggttgttatc tactactcct ccactctctt cacctatgca 780
cggccccggg ccatgtacac cttcaaccac aacaagatta tctctgtgct ctacactatc 840
attgtaccat tcttcaaccc agccatctac tgcctgagga acaaggaggt gaaggaggcc 900
ttcaggaaga cagtgatggg cagatgtcac tatcctagg 939

<210> 527
<211> 965
<212> DNA
<213> Unknown (H38g376 nucleotide)

<220>
<223> Synthetic construct

<400> 527
cacacagagc cactgaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctctccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactccca cctccacacc 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggttacac ctcggccacg 240
gttcccaaga tgattgtgga cacgcagtcg catggcagag tcatctctca tgctggctgc 300
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atggcctatg actgctttgt agccatctgt tgccctctgc actacccagt catcgtgaat 420
cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttagcctgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcacc atcatcaaga atgtggaaat ctctaatttt 540
gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatagcata 600
ttcatatatt ttgatagtac tatgtttggt tttcttccca tttcagggat ccttttgtct 660
tactctaaaa ttgtcccctc cgttctaagg atgtcatcgt cagatgggaa gtataaagcc 720
ttctccacct gtggctctca cctagcagtt gtttgctgat ttgatggaac aggcattggc 780
atgtacctga cttcagctgt ggcaccaccc cccaggaatg gtgtcgtgga gtcagggatg 840
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caaagtgccc tgcggaggct gcgcacagaa cagttgaatc tcatgatctc ttgcatcctt 960
tttct 965

<210> 528
<211> 557
<212> DNA
<213> Unknown (H38g377 nucleotide)

<220>
<223> Synthetic construct

<400> 528
ccagtacccc agcatctgtt cttcttcctg aaagtgactg gccaccattg acctaaatca 60
gaaacctatg atttgtccca gatttttctt tttcccttgc tcttcatatc tatcagtgat 120
actaattcta aactaacctt aacgaactgc atctgtgccc ctctctcatc tctcctccct 180
cactttcagt gcattgactg aggctacacc atgtgaatta ttaccatggc atgctaacag 240
aattattgct tccaatggta ccatgccata attcatcctt catatggttg ccaataaatt 300
tttaaaatat ttatttgtat ctgctacttc tcaggttaaa agcttcccag catgttgaag 360
atggaatgca aacagctctg catgcatgcc ctttgctcat gcagctccta ttgtccatcc 420
cccactctta cccactcttg ctggataatt cctttttatt cttaagactt catccaagaa 480
gcaagctctc atatttcctt catatacttc tgtcatagcc ctttacatat gttaatcatc 540
tgttaccttt tctcttg 557

<210> 529
<211> 1007
<212> DNA
<213> Unknown (H38g378 nucleotide)

<220>
<223> Synthetic construct

<400> 529
tctagagacc cacagaatct aacagatgtc tctatattcc tcctcctaga agctcagagg 60
atccagaacg gcagccggtc ctcactgggc tgttcctgtc cacgtgcctg gtcatggcgc 120
tggggaacct gctcatcatc ctggccatca gccctgactc ccacctccac acccccatgt 180
acttcttcct ctccaacctg tccttgcctg acatcagttt cacctccacc acagtcccca 240

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agatgactgt ggacatccaa tctcacagca gagtcatctc ctatgcaggc tgcctgactc     300
agatgtctct ctttgccatt tttggaggca tggaagacag acatactcct gagtgtgatg     360
gcctatgacc agtttgtagc caaatgtcac cctctatatc attcagccat catgaacccg     420
tgtttctgtg gctttctact tttgttgtct tttttttttc cctcagtctt ttagatgccc     480
agctgtacaa tttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attcctaatt     540
tcttctgtga cccttctcaa ctcccccatc ttgcatgttg tgacaccttc aacaataaca     600
taatcctgta tttccctgat gccatatttg gttttcttcc catctcgggg acacttttct     660
cttacgataa aattgtttcc tccattctga gggtttcatc atcaggtggg aagtataaag     720
ccttctccac ctatgggtct cacctgtcag atgtttcctg atttatgga acaggcgttg      780
gagggtacct cagttcagat gtgtcatctt ccccgagaaa gactgcagtg gcctcagtga     840
tgtacgcagt ggtcaccccc atgatgaacc ccttcatcta cagtccgaga aacagggata     900
tgaaaagtgt cctgcggcgg ccgcacggca gcacgttcta atctcaatac cttcttatct     960
gttccattcc ttttgcagtg tgggtcgaaa aaggctgcat gatgaaa                  1007
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<210> 530
<211> 471
<212> DNA
<213> Unknown (H38g379 nucleotide)

<220>
<223> Synthetic construct

<400> 530

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tttttaaaaa tgagattaaa ggaattaatg taagatagaa ccataatgga ttattggagg      60
gaaggtaggc acatttaggg gatgttcttg gcctttccgt ttggctgacc tatcccaaaa     120
cttttcctct gggtctctat cagagacatg gcagtaacct ggatggacca taggcacgag     180
tcctgtagcc cattcctccc gaagctgcag cctttttcat cctgccatgt atctgagtta     240
tgcacgtgcc ttgacacctt cactaaatca tatataactt gaatccgggg actcaagggt     300
ttcaaccatc tttgttttct tctccattac tgtcactgtg ctagagccca agtctcctga     360
aatgcgccct ggagccttgc tcaaagatgt caacccaaca tgctgatcag gtagctattt     420
tgtctgaagc tggtagttca tgacaggctc tgacatgtgc tgagcttgct c              471
```

<210> 531
<211> 974
<212> DNA
<213> Unknown (H38g380 nucleotide)

<220>
<223> Synthetic construct

<400> 531

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atgaagatca accagacaat cctgaaggaa ttcattcttg ttggcttttc tgtgtaccca      60
catgtacaga catttctttt tgtggtcttc ttttgtctct accttctcac ccttgcaggt     120
aatctgacca tcatgggtct aacttgagtg gacaggtccc tccacacccc tatgtatctc     180
ttccttagtg cactctcctt ctctgagacc tgctatacac tgaccatcgt ccccaagatg     240
ctggaagatc tactggccaa ggacagaagc atttcagtca caggttgtag cttacagatg     300
tgcttcttct tgggacttgg tggcacaaac tgtatcattc tcactttgat gggatatgac     360
cgcttcctgg ccatttgtaa ccctctaaga tatccactgc ttatgaccaa cattgtatgt     420
ggacaacttg tggcctctgc ttgcactgca ggcttcttta tctctcttac agagactgca     480
ctgatattca gggactcttt ctgcagaccc aaccttgtca aacacttctt ctgccatatg     540
ctggcagtta ttaggctgtc ttgtatagac agtaaccaca cagaattcat tataacactg     600
atctcagtgt ctggtttgct gggtaccctt ctgctcatca tcctgactga tgtcttcatt     660
atttctactg tcctcaggat cccttcagct gagggcaagc agaaggcctt caccacctgt     720
gcctcccacc tcaccgtggt tataatccac tttggttttg catctattgt ttatttgaag     780
ccagaagcct caggagatga cacactcata gcagtccctt atactgtcat taccccttc      840
ctcagcccca tcatattcag cctgaggaat aaggacatga aaaatgcttt tagaagaatg     900
atgggaaaca cagttgcctt gaaaaaataa tcttgggttg ttgctgcttg tttgaagaag     960
ggctcaatgt cccc                                                       974
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<210> 532
<211> 939

<212> DNA
<213> Unknown (H38g381 nucleotide)

<220>
<223> Synthetic construct

<400> 532
atggggcaga ccaacgtaac ctcctggagg gattttgtct tcctgggctt ctccagttct 60
ggggagttgc agctccttct ctttgccttg ttcctctctc tgtatctagt cactctgacc 120
agcaatgtct tcattatcat agccatcagg ctggatagcc atctgcacac ccccatgtac 180
ctcttccttt ccttcctatc cttctctgag acctgctaca ctttgggcat catccctaga 240
atgctctctg gcctggctgg gggggaccag gctatctcct atgtgggctg tgctgcccag 300
atgttctttt ctgcctcatg ggcctgtact aactgcttcc ttctggctgc catgggcttt 360
gacagatatg tggccatctg tgctccactc cactatgcca gccacatgaa tcctaccctc 420
tgtgcccagc tggtcattac ttccttcctg actggatacc tctttggact gggaatgaca 480
ctagttattt tccacctctc attctgcagc tcccatgaaa tccagcactt tttttgtgac 540
acgccacctg tgctgagcct agcctgtgga gatacaggcc cgagtgagct gaggatcttt 600
atcctcagtc ttttggtcct cttggtctcc ttcttcttca tcaccatctc ctacgcctac 660
atcttggcag caatactgag gatcccctct gctgaggggc agaagaaggc cttctccact 720
tgtgcctcgc accttacagt ggtcattatt cattatggct gtgcttcctt cgtgtacctg 780
aggcccaaag ccagctactc tcttgagaga gatcagctta ttgccatgac ctatactgta 840
gtgacccccc tccttaatcc cattgtttat agtctaagga ctagggctat acagacagct 900
ctgaggaatg ctttcagagg gagattgctg ggtaaagga 939

<210> 533
<211> 866
<212> DNA
<213> Unknown (H38g382 nucleotide)

<220>
<223> Synthetic construct

<400> 533
cttttgtttt ttatccttct gctcctcatt tacctattca ccatcattgg tagtcttatg 60
gtgttctttg ccatcaaact ggatttctgc ctgcacagct ccttgtattt cttcatcagt 120
gtcctctcct tcctagagat ctggtatacc accatcacca tccccaagat gttcttcaac 180
ctagccagtg agcagaagac cacctccctg gatggttgcc tattgcagat gtatttcttt 240
tactccctcg gcatcactga ggtttgcttg ctcaccacca gggctatgga cagatacctg 300
gccatctgta atcacctttg ctaccccaca gtcacgacac cttagctcta cactcaggtg 360
attctaggtt gttgcatctg tggcttcttc acgctgctcc ctgagattgc ttggatatcc 420
acactgccat tttgtggtcc aaatcaaatc cacaacattt tctgtgacct tgatcctatc 480
ctgaatctag catgtgtaga cactggccca gttgttttaa tcaaggttgt ggacattgta 540
catgctgtgg agatcatcac agctataatg cttgtgactt tggcttacgt ccaaattatt 600
gcagtgatcc taagaaactg ctctgctgat ggatgccaaa aggcattttc tacctatgct 660
ttccaccttg ctattttctt aatctttttt ggaagtgtag ccctgatgta cctgctcttc 720
tctgccaagt actccttttt ctgggacaca accatcagcc taatgtttgc agtgctgtca 780
ccgacacaat catctgtagt ctgaggaata aagagataaa ggaagcaata aaaaagcaca 840
tgtgccaatc aatgatatgc acacat 866

<210> 534
<211> 954
<212> DNA
<213> Unknown (H38g383 nucleotide)

<220>
<223> Synthetic construct

<400> 534
atggagagcc ccaatcgaac caccattcag gagtttatct tctccgcttt cccttattcc 60
tgggttaagt ctgttgtctg ctttgttcca ctgctcttca tctatgcttt cattgttgtt 120
ggaaacctgg tcatcatcac agtggtccag ttgaatactc acctccacac tcccatgtat 180

acttttatca gtgctctttc tttcctggag atttggtata ccacagccac aatcccaaag 240
atgctgtcta gcctgcttag tgagaggagc atttccttca atggttgtct cctgcagatg 300
tatttcttcc attccaccgg catctgtgag gtgtgtctct tgacagttat ggcctttgac 360
cactacctgg ccatatgcag ccctcttcat tatccctcta tcatgacccc caagctatgt 420
acccaactga ctttaagttg ctgtgtttgt ggctttatca cacccttcc tgagattgcc 480
tggatctcta cactgccatt ttgtggttcg aatcaccttg aacatatctt ctgtgacttc 540
ctcccagtgc tgcgtctggc ctgcacagac acacgagcca tcgtcatgat tcaggtagtg 600
gatgtcattc atgcagtgga gattattaca gctgtgatgc tcatcttcat gtcctacgat 660
ggtattgtgg ctgtaattct acgtattcat tcagctggag gccgccgcac agcatttcc 720
acgtgtgtct ctcacttcat tgtcttttcg ctcttctttg gcagtgtgac tctcatgtac 780
ctacgcttct ctgccaccta ctctttgttc tgggatatag ccattgctct ggcctttgca 840
gttttgtctc ccttcttcaa ccccattatc tatagcctga ggaataaaga aataaaagaa 900
gctataaaaa agcacatagg tcaagctaag atattttttt ccgtaagacc aggg 954

<210> 535
<211> 386
<212> DNA
<213> Unknown (H38g384 nucleotide)

<220>
<223> Synthetic construct

<400> 535
ctactgaaac tctcctgctc agacacacac ctcaatgagg tcataatcct tagtgagggt 60
gccctggtca tgatcacccc atttctttgc atcctggctt cttatatgca catcacctgc 120
actgtcctga aggtcccatc cacaaaggga aggtggaaag ccttctccac ctgtggttct 180
cacctggctg tggttctcct cttctacagc accatcattg ctgtgtattt taaccctctg 240
tcctcccact cagctgagaa agacactatg gctactgtgt tgtatacagt agtgactccc 300
atgctaaacc ctttatctac agcctgagga acaggtactt gaaaggggct ctgaaaaaag 360
tagttggcag ggtggtgttt tctgtc 386

<210> 536
<211> 486
<212> DNA
<213> Unknown (H38g385 nucleotide)

<220>
<223> Synthetic construct

<400> 536
ctgctcatca tcccagccat tgccactgac acccggctct ctgtgctcgt gcgctttttc 60
cttgccaacc tggccttcgt ggtcacttgc ttcacctcca ccaccatccc caagatgctg 120
gacgtgcaaa gagatcccctt gtgtcatgtc aggatgcaaa gggattcctt atgctggttg 180
cctgacccag atgctcttct tcatctgtta ggcatccaca gcttcctgct gactgcaatg 240
gccaatgaac actgtgtggc catctgtcac tctctgaact ccatcaggtc tgtgacacca 300
tagctctgtg gcctcctggt ggtggcctcc tggaccttcg cattcaggaa tgccctgacc 360
cacccagtgt tactgacccg cctctcactc tgcacctacg agtgggtcag ccatgtcttc 420
tgcaacctca gccagctgct gaagttggcc tgctcagacg ccactctcaa caatgtgacg 480
gtgcaa 486

<210> 537
<211> 980
<212> DNA
<213> Unknown (H38g386 nucleotide)

<220>
<223> Synthetic construct

<400> 537
atgttaaccc ctaataatgc ctgctccgtg cctacctctt tccggctcac tggcatccct 60
ggcctggaat ccctgcacat ctggctctcc atcccctttg gctccatgta cctggtagct 120

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gtgctgggga acataaccat cctggcagtg gtaaggatgg agtacagcct gcatcagccc    180
atgtacttct tcctgtgcat gttggctgtc attgacttgg tcctgtcaac ctctaccatg    240
cccaaactac tggccatctt ctggtttggt gcccacaaca ttggtgttaa tgcctgtttg    300
gcccagatgt tcttcattca ttgctttgcc actgttgagt caggcatctt ccttgccatg    360
gcttttgatc actatgtggc catctgtgac ccactgcatc ataccttgtt gctcacccat    420
gctgtggtgg gtcgtttggg gctggctgcc ctcctccggg gggtaatcta cattggacct    480
ctgcccctag tgatttgtct gaggttgccc ctttaccaca cccaaatcat tgcccattcg    540
tactgtgagc acatggctgt ggtcaccttg gcatgtggtg tgacacaagg gtcaacaact    600
tatatggaat ggggattggc tttctggtat taatcctgga ttcattggcc atcactgcct    660
cctatgtgat gattttcagg gctgtaatgg gcttggccac ctctgaagcc aggcttaaaa    720
ccttagggac atgtggctct cacatctgtg ccatcctcgt cttctacatc cccattgctg    780
tttcctctct cacacaccgc tttggccatc gtgtgcctcc ccatatccat atccatatcc    840
atatccatat ccatatccat atccttttgg ccaacattta cctcctcatc ccacctatcc    900
tcaacccaat agtctatgct gtccgcacaa agcagatccg agaggctctt ctccatatta    960
aggcaaggac tcaaaccagg                                                980
```

<210> 538
<211> 967
<212> DNA
<213> Unknown (H38g387 nucleotide)

<220>
<223> Synthetic construct

<400> 538

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gtagcctgct acctccctga gctgtagtgg gatgtccagg gggtaaagag aatgagacag     60
gagttggcga gttcctcttg ctcagcatca ccagtgactc agagaagcag caggccctct    120
tctggctctt cctgtgtatg cacttagtca ctgaggctgg aaacacaccc atcatcctgg    180
gcatcggctc caaccctcgc ctgcacaccc ccacgtactt cttcacccat ctctcctttg    240
tcaacatctg cttcatcacc aacctgatcc ccaagctcct ggtcaaccat gtggcaggaa    300
cagggatgat cacgatctct tctccccagt gcctgactca gatgtacttc ctcatctcct    360
ttgccaacgt ggacaccttt ctgctggcca tcatggcact ggaccactat gtggccatct    420
gcagcgccct gcggtactgc tccatcatca cccccggctc tgtcaggggc tggccgtgct    480
agcgtgagca ggctccagcc tcatctccct ggtccacacg gtcatcatga gcagactggc    540
cttctgctcc tccgcccaga tttcacactt ctactgtgac gcctacctgc tcatgaagat    600
tgcctgctca catacatgtc aatcagcatg tgttcctggg ggccgtggtc ctgttcctgg    660
ctccctgtgc gctcatcttg gtctcctaca tccgcattgc tgcagccatc ctccggattc    720
cctctcctac aagaaggcgc aaggcatgtt ccatatgtag ctcccacctg tctctggtca    780
ccctgttcta tggaactgtc ctggggatct gcatatgacc cccagactcc ttctcagccc    840
aggacaccat agcaaccatc atgtacactg tggtgacctc tatgctaaac cccttcatct    900
acagtctgat gaacaaggag gtccaggagg ccgtgagaag gctcttcagt aggggctcac    960
actcatc                                                              967
```

<210> 539
<211> 603
<212> DNA
<213> Unknown (H38g388 nucleotide)

<220>
<223> Synthetic construct

<400> 539

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cttcattttt gtgggataga tgtgacctca taccaggctt gacagatatt ggcatagcaa     60
cccctacgac actacataat gtgggcaacg cattgtcgca ttatgctgtc gcatgggaat    120
tgctttctcc attcgttgag ccagttggcc tttgccgtgc acttaccctt ctgtggtccc    180
aatgagttcg atagttttta ttgtgacctt cctagggtaa tcaaacttgc ctgtacagat    240
acctacaggc tagatattat ggtcattgct aacagtggtg tgctcactgt gtgttctttt    300
gttcttctaa tcatctcata cactatcatc ctaatgacca tccagcatcg ccctttagat    360
aagtcgtcca aagctctgtc cactttgact gctcacatta cagtagttct tttgttcttt    420
ggaccatgtg tctttattta tgcctggcca ttccccatca agtcattaga taaattcctt    480
gctgtatttt attctgtgat cacccctctc ttgaacccaa ttatatacac actgaggaac    540
```

aaagacatga agacggcaat aagacagctg agaaaatggg atgcacattc tagtgtaaag 600
ttt 603

<210> 540
<211> 935
<212> DNA
<213> Unknown (H38g389 nucleotide)

<220>
<223> Synthetic construct

<400> 540
atgctcactt ttcataatgt ctgctcagta cccagctcct tctggctcac tggcatccca 60
gggctggagt ccctacacgt ctggctctcc atcccctttg gctccatgta cctggtggct 120
gtggtgggga atgtgaccat cctggctgtg gtaaagatag aacgcagcct gcaccagccc 180
atgtactttt tcttgtgcat gttggctgcc attgacctgg ttctgtctac ttccactata 240
cccaaacttc tgggaatctt ctggttcggt gcttgtgaca ttggcctgga cgcctgcttg 300
ggccaaatgt tccttatcca ctgctttgcc actgttgagt caggcatctt ccttgccatg 360
gcttttgatc gctacgtggc catctgcaac ccactacgtc atagcatggt gctcacttat 420
acagtggtgg gtcgtttggg gcttgtttct ctcctccggg gtgttctcta cattggacct 480
ctgcctctga tgatccgcct gcggctgccc ctttataaaa cccatgttat ctcccactcc 540
tactgtgagc acatggctgt agttgccttg acatgtggcg acagcaaggt caataatgtc 600
tatgggatga gcatcggctt tctggtgttg atcatggaat cagtggatag tgatgcatca 660
taggtgagga gtatcagggc cgtgatgggg ttagccaatc atgaggatag gattagagac 720
catggggaca ggcgaatatc acatatgtgc catcatgata ttataggatc ccagtgatgt 780
atattccatg agatcaccga gatggtcagt gtgtgcatca tccagtccac aatatgatgg 840
ccaggatata tatcatcagt catccaagca tcaagcccag tgtataggat gatcgcacca 900
agcagagccg agagagctat atccaaagag caaga 935

<210> 541
<211> 945
<212> DNA
<213> Unknown (H38g390 nucleotide)

<220>
<223> Synthetic construct

<400> 541
atggagacgt gggtgaacca gtcctacaca gatggcttct tcctcttagg catcttctcc 60
cacagtactg ctgaccttgt cctcttctcc gtggttatgg cggtcttcac agtggccctc 120
tgtgggaatg tcctcctcat cttcctcatc tacatggacc ctcaccttca cacccccatg 180
tacttcttcc tcagccagct ctccctcatg gacctcatgt tggtctgtac caatgtgcca 240
aagatggcag ccaacttcct gtctggcagg aagtccatct cctttgtggg ctgtggcata 300
caaattggcc tctttgtctg tcttgtggga tctgaggggc tcttgctggg actcatggct 360
tatgaccgct atgtggccat tagccaccca cttcactatc ccatcctcat gaatcagagg 420
gtctgtctcc agattactgg gagctcctgg gcctttggga taatcgatgg cttgatccag 480
atggtggtag taatgaattt cccctactgt ggcttgagga aggtgaacca tttcttctgt 540
gagatgctat ccttgttgaa gctggcctgt gtagacacat ccctgtttga gaaggtgata 600
tttgcttgct gtgtcttcat gcttctcttc ccattctcca tcatcgtggc ctcctatgct 660
cacattctag ggactgtgct gcaaatgcac tctgctcagg cctggaaaaa ggccctggcc 720
acctgctcct cccacctgac agctgtcacc ctcttctatg ggcagccat gttcatctac 780
ctgaggccta ggcactaccg ggcccccagc catgacaagg tggcctctat cttctacacg 840
gtccttactc ccatgctcaa cccccttcatt tacagcttga ggaacaggga ggtgatgggg 900
gcactgagga aggggctgga ccgctgcagg atcggcagcc agcac 945

<210> 542
<211> 975
<212> DNA
<213> Unknown (H38g391 nucleotide)

<220>

<223> Synthetic construct

<400> 542
atgggaagat gggtgaacca gtcctacaca gatggcttct tcctcttggg catcttttcc 60
cacagccaga ctgaccttgt cctcttctct gcagttatgg tggtcttcac agtggccctc 120
tgtgggaatg tcctcctcat cttcctcatc tacctggacg ctggacttca cacccccatg 180
tacttcttcc tcagccagct ctccctcatg gacctcatgt tggtctgtaa cattgtgcca 240
aagatgcagc caacttcctg tctggcagaa gtccatctcc tttgtgggct gtggcataca 300
aattggcttt tttgtctctc ttgtgggatc tgaggggctc ttgctgggac tcatggctta 360
tgaccgctac gtggccgtta gccacccact tcactatccc atcctcatga atcagagggt 420
ctgtctccag attactggga gctcctgggc ctttgggata atagatggag tgattcagat 480
ggtggcagcc atgggcttac cttactgtgg ctcaaggagc gtggatcact tttctgtga 540
ggtacaagct ttattgaagc tggcctgtgc agacacttcc cttttgaca ccctcctctt 600
tgcctgctgt gtcttcatgc ttctccttcc cttctccatc atcatggcct cctatgcttg 660
catcctaggg gctgtgctcc gaatacgctc tgctcaggcc tggaaaaaag ccctggccac 720
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ctgaggaagg ggctggaccg ctgcaggatt ggcagccagc actgaacccc agagtctggt 960
gcctgctgtg cccct 975

<210> 543
<211> 942
<212> DNA
<213> Unknown (H38g392 nucleotide)

<220>
<223> Synthetic construct

<400> 543
atgggggatg tgaatcagtc ggtggcctca gacttcattc tggtgggcct cttcagtcac 60
tcaggatcac gccagctcct cttctccctg gtggctgtca tgtttgtcat aggccttctg 120
ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac 180
ttcctgctca gccagctctc cctgtttgac attggctgtc ccatggtcac catccccaag 240
atggcatcag actttctgcg ggagagaggt gccacctcct atggaggtgg tgcagctcaa 300
atattcttcc tcacactgat gggtgtggct gagggcgtcc tgttggtcct catgtcttat 360
gaccgttatg ttgctgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta 420
tgtctgctga tgatgggctc ctcctgggtg gtaggtgtgc tcaacgcctc catccagacc 480
tccatcaccc tgcattttcc ctactgtgcc tcccgtattg tggatcactt cttctgtgag 540
gtgccagccc tactgaagct ctcctgtgca gatacctgtg cctacgagat ggcgctgtcc 600
acctcagggg tgctgatcct aatgctccct ctttccctca tcgccacctc ctacggccac 660
gtgttgcagg ctgttctaag catgcgctca gaggaggcca gacacaaggc tgtcaccacc 720
tgctcctcgc acatcacggt agtggggctc ttttatggtg ccgccgtgtt catgtacatg 780
gtgccttgcg cctaccacag tccacagcag gataacgtgg tttccctctt ctatagcctt 840
gtcacccccta cactcaaccc ccttatctac agtctgagga atccggaggt gtggatggct 900
ttggtcaaag tgcttagcag agctggactc aggcaaatgt gc 942

<210> 544
<211> 350
<212> DNA
<213> Unknown (H38g393 nucleotide)

<220>
<223> Synthetic construct

<400> 544
aatattaagg gcattgctgg tgcccatgtt tattgaagtg ttggatctat tctttatcat 60
cctatcttat atctttatcc cttcaggcag ttctacaact ctcctctcag aggcccgcta 120
caaagcattt gggacatgtg tctctcacat aggtgccatc ttagccttct acacaccttc 180
agtcatctct tcagtcatgc accgtgtggc ccgctgtgct gcgccacacg tccacattct 240
cctcgccaat ttctatctgc tcttcccacc catggtcaat cccatcatct acggcgttaa 300

gaccaagcag atccgtgaca gtcttgggag tattcccgag aaaggatgtg 350

<210> 545
<211> 948
<212> DNA
<213> Unknown (H38g394 nucleotide)

<220>
<223> Synthetic construct

<400> 545
atgcctagtc agaactatag catcatatct gaatttaacc tctttggctt ctcagccttc 60
ccccagcacc tcctgcccat cttgttcctg ctgtacctcc tgatgttcct gttcacattg 120
ctgggcaacc ttctcatcat ggccacaatc tggattgaac acagactcca cacacccatg 180
tacctcttct tgtgcaccct ctccgtctct gagattctgt tcactgttgc catcacccct 240
cgcatgctgg ctgatctgct ttccacccat cattccatca cctttgtggc ttgtgccaac 300
cagatgttct tctccttcat gtttggcttc actcactcct tccttctcct ggtcatgggc 360
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gactgtgccc atcttgtggc ctgtacctgg gctggtggct cagtcatggg gatgatggtg 480
acaacgatag ttttccacct cactttctgt gggtctaatg tgatccacca tttttctgt 540
catgtgcttt ccctcttgaa gttggcctgt gaaaacaaga catcatctgt catcatgggt 600
gtgatgctgg tgtgtgtcac agccctgata ggctgtttat tcctcatcat cctctcctat 660
gtcttcattg tggctgccat cttgaggatt ccctctgccg aaggccggca caagacattt 720
tctacgtgtg tatcccacct cactgtggtg gtcacgcact atagttttgc ctcctttatc 780
tacctcaagc ccaagggcct ccattctatg tacagtgacg ccttgatggc caccacctat 840
actgtcttca ccccccttcct tagcccaatc attttcagcc taaggaacaa ggagctgaag 900
aatgccataa ataaaaactt ttacagaaaa ttctgtcctc caagttcc 948

<210> 546
<211> 990
<212> DNA
<213> Unknown (H38g395 nucleotide)

<220>
<223> Synthetic construct

<400> 546
atgtgttctt ttttcttgtg ccaaacaggt aaacaggcaa aaatatcaat gggagaagaa 60
aaccaaacct ttgtgtccaa gtttatcttc ctgggtcttt cacaggactt gcagacccag 120
atcctgctat ttatcctttt cctcatcatt tatctgctga ccgtgcttgg aaaccagctc 180
atcatcattc tcatcttcct ggattctcgc cttcacactc ccatgtattt ttttcttaga 240
aatctctcct ttgcagatct ctgtttctct actagcattg tccctcaagt gttggttcac 300
ttcttggtaa agaggaaaac catttctttt tatgggtgta tgacacagat aattgtcttt 360
cttctggttg ggtgtacaga gtgtgcgctg ctggcagtga tgtcctatga ccggtatgtg 420
gctgtctgca agcccctgta ctactctacc atcatgacac aacgggtgtg tctctggctg 480
tccttcaggt cctgggccag tggggcacta gtgtctttag tagataccag ctttactttc 540
catcttccct actggggaca gaatataatc aatcactact tttgtgaacc tcctgccctc 600
ctgaagctgg cttccataga cacttacagc acagaaatgg ccatcttttc aatgggcgtg 660
gtaatcctcc tggcccctgt ctccctgatt cttggttctt attggaatat tatctccact 720
gttatccaga tgcagtctgg ggaagggaga ctcaaggctt tttccacctg tggctcccat 780
cttattgttg ttgtcctctt ctatgggtca ggaatattca cctacatgcg accaaactcc 840
aagactacaa aagaactgga taaaatgata tctgtgttct atacagcggt gactccaatg 900
ttgaacccca taatttatag cttgaggaac aaagatgtca aaggggctct caggaaacta 960
gttgggagaa agtgcttctc tcataggcag 990

<210> 547
<211> 676
<212> DNA
<213> Unknown (H38g396 nucleotide)

<220>

<223> Synthetic construct

<400> 547
ggaaaggaaa gagagacacg ggtctggagg ccgagagcgc aagaccgggg ggtgagcacc 60
cggcacgctg cgagggtaac aagctatcag gaatgcgggg tccgtggcgg gggagtgttg 120
tgggcgcggt taggccgagt cctttagacg cccagctgca caacgtgatt gcctacagaa 180
ggacctgctt caaggatgtg gaaattccga atttcgctgt gacccttctc aattccccgt 240
cttgcatgtg tggcaccttc accaataaca taatcatgta tttccctgct gccatatttg 300
gttttcttcc catctcgggg acccttttct cttacgataa aattgttttc tccattctga 360
gggtttcatc atcaggtggg aagcataagg ccttctccac cagggggtct cacctgtcag 420
ttgtttgctg attttatgga acaggcattg gaggctacct cagttcagat gtgtcatctt 480
ccccgagaaa ggctgcagtg gcctcagtga tgtacacggt ggccatcccc atgctgaacc 540
ccttcatcta cagcctgaga aacagggata ttaaaagtgt cctgcggcac cgcacggcag 600
cacggtctca tctcaatatc ttcttatctg ttccattcct tttgtagtgt gggttaaaaa 660
aggcagcaag gtcaaa 676

<210> 548
<211> 992
<212> DNA
<213> Unknown (H38g397 nucleotide)

<220>
<223> Synthetic construct

<400> 548
atgaaaatct tcaacacccc cagcaactcc agcaccttca ctggcttcat cctcctgggc 60
ttcccttgcc ccagggaggg acagatcctc ctcgttgtgc tcttcactgt tgtttacctc 120
ctgaccctca tgggcaatgg ttccatcaac tgtgctgtgc actgggtcag agactccatg 180
cccccatgta catcctgctc gccaacttct ccttcctgga gatctgttat gtcacctcta 240
cagtccccaa cgtgctggcc aacttcctct ctgacacaag atcatctcgt tctctggctg 300
cttcctccaa ttctactttt ttttctcctt gggctctaca gaatgctttt tcctgggagc 360
tatggcattt gacctatacc ttgccatctg ccggcctcta cgctatccaa ccattatgac 420
cagacgtctc tgcaacattc ttgtgggcag ctgctgggta cttggtttct tgtggttcct 480
gattcctatc agtgtcattt ctcaaatgac ctgtggatct aggattattg accacttccc 540
atgtgaccca ggtcctctgt tagccctcac ctgtgccaga gcccctctac tagagttgac 600
tagctccacc ttaagttctc tacttctatt tattcccttt ctcttcatcg tggggtgcta 660
tgctctggtc ctgagagctg tgttgagggt tccttcagca tctggaagaa gaaaggcttt 720
ctctacctgt ggctcccacc tggctgtagt ttcactgttt atggctcaat gatgatcacg 780
tatgtgagcc caacatctgg gcatgaattc ggaatgcaga agactgtgac tctgttctat 840
tctgtggtca ctccccttat taatcctgtc atatacagtc tgaggaacaa ggaaatgaaa 900
catgcaatga ggaactacac tgtaatgttt tattttctag aattcatagg gctacaagag 960
atgtcaaaga tgtattctat ctctttaatt tt 992

<210> 549
<211> 805
<212> DNA
<213> Unknown (H38g398 nucleotide)

<220>
<223> Synthetic construct

<400> 549
ttctcaagta tatatgcttg tatatatcag atctctatct caactatcta tctaatcatc 60
tatctatatt taaattagta gactggatta tcaattgtta tttgtattat attttacagc 120
ctactcactt tattctagca gttcatttac acttgtgaaa tgaatcaatt taaatagtaa 180
caaaatagga acaatctgac aactttttag ggatacttct actcaggaat atgtggcagg 240
agaaactgta caatgtgatt gataacaatc ttcattttga aatattgcta gcatggcttc 300
atcacaattc actctgtcat ggacagtggt cagcacttgg ccatctgcca cccactgcac 360
taccttatcc tcatgactga tgaaaataga gatcgaatgt ttatgggccc gctgacagcc 420
tttccctaca ccgatgccac atctcagaac atgcactatg taaattttct tattatcatt 480
ctcagtattt tgtacatccc tggaccatat acgttgatcc taagagctat gcttcagctg 540

ctttcagcag ctagccatca aaatgccttt tctatccgtg ggtctcactt aatagtggtg 600
tctctgttct gtgaaaccat atgatgatgt gtgtgaatct catatctgac catttagtat 660
aaatgaagat gacaaatcac aatatcataa tgatatcctc cataaagact ctagttttaa 720
actttgtcaa ttacacctta ctcaatatga acttaaaacc tatcttcagt ttttttttta 780
tggaatgagt attagccaaa gctca 805

<210> 550
<211> 933
<212> DNA
<213> Unknown (H38g399 nucleotide)

<220>
<223> Synthetic construct

<400> 550
atgaaaatct tcaacagccc cagcaactcc agcaccttca ctggcttcat cctcctgggc 60
ttcccttgcc ccagggaggg gcagatcctc ctctttgtgc tcttcactgt tgtttacctc 120
ctgaccctca tgggcaatgg ttccatcatc tgtgctgtgc actgggatca gagactccac 180
gcccccatgt acatcctgct cgccaacttc tccttcttgg agatatgtta tgtcacctcc 240
acagtcccca gcatgctggc caacttcctc tctgacacca agatcatctc gttctctggc 300
tgcttcctcc agttctactt tttcttctcc ttgggctcta cagaatgctt tttcctggca 360
gttatggcat ttgatcgata ccttgccatc tgtcggcctc tacgctatcc aaccattatg 420
accagacgtc tctgtaccaa tcttgtggtc aattgctggg tacttggttt catctggttc 480
ttgattccta tcgtcaacat ctcccaaatg tccttctgtg gatctaggat tattgaccac 540
ttcctatgtg acccagctcc tcttctaact ctcacttgca aaaaaggccc tgtgatagag 600
cttgtctttt ctgtcttaag tcctctgcct gtctttatgc tctttctctt cattgtgggg 660
tcctatgctc tggtcgtgag agctgtgttg agggtccctt cagcagctgg gagaagaaag 720
gctttctcca cctgtgggtc tcacctggct gtggtttcac tgttctacgg ctcagtactg 780
gtcatgtatg ggagcccacc atctaagaat gaagctggaa agcagaagac tgtgactctg 840
ttttattctg ttgttacccc actgcttaac cctgtgatat atagtcttag gaacaaagat 900
atgagaaaag ctctgaagaa attttgggga aca 933

<210> 551
<211> 977
<212> DNA
<213> Unknown (H38g400 nucleotide)

<220>
<223> Synthetic construct

<400> 551
acagccctgg aattcacaaa caattcagag acaagcacta tgacggaatt tgttctcctt 60
ggctttcctg gttgtcagga gatgcaaagt ttcctcttct ccctgttctt tgtgatctat 120
gtatttacca taataggaaa tgggaccatt gtctgtgctg tgagattgga caaacggctt 180
cataccccaa tgtatattct cctagggaac tttgctttcc ttgaaatccg gtaagttact 240
tccactgtac ccaacatgct agtcaacttc ctctcagaga caaaaaccat ctcttttgtt 300
ggctgtttcc tccagttcta ctttttttact tcccttggta caatagaagc atacttcctc 360
tgcatcatgg catatgatcg gtaccttgct atctgccgcc cattgcacta cccaaccatc 420
atgaccccac aactctgcta catattgatg tctttttgct gggtgtttgg attcctcagt 480
tactctgtct ccactgtgca actgtctcaa ctgcctttct gtgggcccaa catcatcaat 540
cacttttttgt gtgacatgga cccactgatg gctctgtcct gtgcctcagc tcctatcact 600
gagattatct tctatatcct gagctccctc attatcattc tcactcttct gtacatctgt 660
ggctcctata tgctttactg atagctgtat taaaagtccc ttcagcagct ggccagcaga 720
aggccttttc cacctgtgga tctcatctga cagtggtgtg tttattcttt ggggccctac 780
tggcaatgta tgtgagcccc acaactgata acccagctgc aatttagaag attataactt 840
tgttctattc tgtggtgacc cccttcttaa accccctgat ttacagctta cgaaacaaag 900
agatgaaggc tgcgttgaag aaagtcctga ggatagaatg agaataaagt catctacatg 960
agaccaagca aaccatt 977

<210> 552
<211> 945

<212> DNA
<213> Unknown (H38g401 nucleotide)

<220>
<223> Synthetic construct

<400> 552
atggagagcg gaaaccaatc aacagtgact gaatttatct tcactggatt ccctcagctt 60
caggatggta gtctcctgta cttctttcct ttacttttca tctatacttt tattatcatt 120
gataacttat taatcttctc tgctgtaagg ctggacaccc atctccacaa ccccatgtat 180
aattttatca gtatattttc ctttctggag atctggtaca ccacagccac cattcccaag 240
atgctctcca acctcatcag tgaaaagaag gccatctcaa tgactggctg catcttgcag 300
atgtatttct tccactcact tgaaaactca gaggggatct tgctgaccac catggccatt 360
gacagatacg ttgccatctg caaccctctt cgctatcaaa tgatcatgac cccccggctc 420
tgtgctcaac tctctgcagg ttcctgcctc ttcggtttcc ttatcctgct tcccgagatt 480
gtgatgattt ccacactgcc tttctgtggg cccaaccaaa tccatcagat cttctgtgac 540
ttggtccctg tgctaagcct ggcctgtaca gacacgtcca tgattctgat tgaggatgtg 600
attcatgctg tgaccatcat cattaccttc ctaatcattg ccctgtccta tgtaagaatt 660
gtcactgtga tattgaggat tccctcttct gaagggaggc aaaaggcttt ttctacctgt 720
gcaggccacc tcatggtctt cctgatattc tttggcagtg tatcactcat gtacttgcgt 780
ttcagcgaca cttatccacc agttttggac acagccattg cactgatgtt tactgtactt 840
gctccattct tcaatcccat catttatagc ctgagaaaca aggacatgaa caatgcgatt 900
aaaaaactgt tctgtcttca aaaagtgttg aacaagcctg gaggt 945

<210> 553
<211> 921
<212> DNA
<213> Unknown (H38g402 nucleotide)

<220>
<223> Synthetic construct

<400> 553
atgcattttg tgactgagtt tgtcctcctg ggtttccatg gtcaaaggga gatgcagagc 60
tgcttcttct cattcatcct ggttctctat ctcctgacac tgctagggaa tggagctatt 120
gtctgtgcag tgaaattgga caggcggctc cacacaccca tgtacatcct tctgggaaac 180
tttgcctttc tagagatctg gtacatttcc tccactgtcc caaacatgct agtcaatatc 240
ctctctgaga ttaaaaccat ctccttctct ggttgcttcc tgcaattcta tttctttttt 300
tcactgggta caacagagtg tttcttttta tcagttatgg cttatgatcg gtacctggcc 360
atctgtcgtc cattacacta cccctccatc atgactggga agttctgtat aattctggtc 420
tgtgtatgct gggtaggcgg atttctctgc tatccagtcc ctattgttct tatctcccaa 480
cttcccttct gtgggcccaa catcattgac cacttggtgt gtgacccagg cccattgttt 540
gcactggcct gcatctctgc tccttccact gagcttatct gttacacctt caactcgatg 600
attatctttg ggcccttcct ctccatcttg ggatcttaca ctctggtcat cagagctgtg 660
ctttgtattc cctctggtgc tggtcgaact aaagctttct ccacatgtgg gtcccaccta 720
atggtggtgt ctctattcta tggaaccctt atggtgatgt atgtgagccc aacatcaggg 780
aacccagcag gaatgcagaa gatcatcact ctggtataca cagcaatgac tccattctta 840
aatcccctta tctatagtct tcgaaacaaa gacatgaaag atgctctaaa gagagtcctg 900
gggttaacag ttagccaaaa c 921

<210> 554
<211> 768
<212> DNA
<213> Unknown (H38g403 nucleotide)

<220>
<223> Synthetic construct

<400> 554
atgtataatt ttatcagcat tttctcattt ctggagatct ggtacacaac tgccacaatt 60
cccaagatgc tctccatcct catcagcagg cagaggacca tctccatggt tggctgcctc 120

```
ttgcagatgt acttcttcca ttcactggga aattcagagg ggattttgtt gaccaccatg     180
gccattgata ggtacgttgc catctgtaac cctctccgct acccaaccat catgaccccc     240
gggctctgtg ttcagctctc tgtggggtcc tgcatctttg gctttcttgt gttgctccca     300
gagattgcat ggatttccac actgcccttc tgtggaccca accaaatcca ccagatcttc     360
tgtgattttg aacctgtgct gcgcttggcc tgtacagaca cgtccatgat tctgattgag     420
gatgtgatcc atgctgtggc cattgtattc tctgtcctga ttattgccct ttcttatatc     480
agaatcatca ctgtaatcct gaggattccc tctgttgaag gccgccagaa ggccttttct     540
acctgtgccg cccatcttag tgtctttctg atgttctatg gcagtgtatc cctcatgtac     600
ctgcgtttct ctgccacttt cccaccgatt ttggacacag ctgttgcact gatgtttgca     660
gttcttgctc ccttttttcaa ccctatcatc tatagcttta gaaataagga catgaagatt     720
gcaattaaaa agcttttctg ccctcagaag atggttaatt tatctgta                 768
```

```
<210> 555
<211> 960
<212> DNA
<213> Unknown (H38g404 nucleotide)

<220>
<223> Synthetic construct

<400> 555
agtctgggaa gcatgaataa ctcacagata tctactgtga cgcagtttgt gttgttgggg      60
tttcctggtc cctggaaaat tcagatcatc tttttctcaa tgattttgtt ggtctacatc     120
ttcactctga ctgggaatat ggccatcatc tgtgcagtga ggtgggacca tcgactccat     180
acccctatgt acgtgctcct agccaacttc tccttcctag agatctggta tgtgacctgc     240
acagtcccca acatgctggt aaattttttc tccaaaacta agaccatatc attctctgga     300
tgtttcactc agttccactt cttcttttcc ctgggcacaa ctgaatgctt cttcctctgt     360
gtcatggctt atgatcggta cctggccatc tgccacccac tgcactatcc ctccattatg     420
actggccagc tctgtggcat cttggtgtct ctttgttggc tcattggttt ccttggacat     480
tcaatttcca ttttcttcat ttttcaacta cctttctgtg gtcccaacat cattgatcat     540
tttctgtgtg atgtagaccc actgatggca ttgtcctctg ccccctactca catcataggg    600
catgtgttcc attctgtgag ctctcttttc atcaacctca ccatggtgta catccttggg     660
tcctatacct tggtgctcag aactgtgctt taggttcctt cttcagctgg atggcaaaag     720
gccatctcta cctgtgggtc acacttggtt gttgtgtctc tgttctatgg agccataatg     780
ctgatgtatg tgagtcccac acctggcaac tcagttgcta tgcataagct catcacactg     840
atatattctg tggtaacacc tgtcttaaac cccctcatct acagcctacg caacaaggac     900
atgaaatatg ccctccatca tgtcttctgt ggaatgagaa ttatccagag atcatgaata     960

<210> 556
<211> 957
<212> DNA
<213> Unknown (H38g405 nucleotide)

<220>
<223> Synthetic construct

<400> 556
atggatccag agaatcagac aatggtgact gagttttatt tctctgattt tcctcaatct      60
aagaatggca gcctcttatt cttcattcct atgctcttta tttatatatt cattcttgtt     120
ggaaatttca tgatttcttt tgctgtccaa ccggaccccc atctccataa tcctatgtac     180
agttttatca gtgtcttctc cttcctggag atttggtaca ccaccgtgac tatccccaag     240
atgctctcca accttctcag tgaacagaaa accatctctt tcataggttg cctcctgcag     300
atgtacttct tccactcact cggggtcaca gaagccctag tcctcacagt gatggccatt     360
gacaggtgtg tagccatctg caaccccctt cgctatgcaa tcactatgtc cccttgactg     420
tgcatccagc tctccactgg ctcttgcatt tttggcttcc tcatgttact gccagagatt     480
gtgtgcattt ccactcttcc attctgtggc gccaaccaaa ttcatcaact cttttgtgac     540
tttgaacctg tgctgcagtt agcctgcaca gatacgtaca taattctggt tgaagatgtg     600
atccgtgcta tttccattct gacctctgtc tctgtcatca ccctttttcta tttaagaatc    660
atcacggtga tcctgaggat tccctctggt gagagtcgtc agaaggcttt cttcacatgt     720
gcagcccaca ttgctatttt cttgctgttt tttggcagtg tgtcactcat gtatctgcgc     780
ttctctgtca cattcccacc attactggac aaggccattg cactgatgtt tgctgtcctt     840
```

```
gccctacttt tcaacccagt aatctatagt ctgaggaaca aagatatgaa aaacgccacc      900
aagaaaatcc tctgttctca aaagatgttc aatgcctctg ggagctaatg gagttca         957
```

<210> 557
<211> 951
<212> DNA
<213> Unknown (H38g406 nucleotide)

<220>
<223> Synthetic construct

<400> 557

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atgacacagt tgacggccag tgggaatcag acaatggtga ctgagttcct cttctctatg       60
ttcccgcatg cgcacagagg tggcctctta ttctttattc ccttgcttct catctacgga      120
tttatcctaa ctggaaacct aataatgttc attgtcatcc aggtgggcat ggccctgcac      180
accccttttgt atttctttat cagtgtcctc tccttcctgg agatctgcta taccacaacc     240
accatcccca agatgctgtc ctgcctaatc agtgagcaga agagcatttc cgtggctggc      300
tgcctcctgc agatgtactt tttccactca cttggtatca cagaaagctg tgtcctgaca      360
gcaatggcca ttgacaggta catagctatc tgcaatccac tccgttaccc aaccatcatg      420
attcccaaac tttgtatcca gctgacagtt ggatcctgct tttgtggctt cctccttgtg      480
cttcctgaga ttgcatggat ttccaccttg cctttctgtg gctccaacca gatccaccag      540
atattctgtg atttcacacc tgtgctgagc ttggcctgca cagatacatt cctagtggtc      600
attgtggatg ccatccatgc agcggaaatt gtagcctcct tcctggtcat tgctctatcc      660
tacatccgga ttattatagt gattctggga atgcactcag ctgaaggtca tcacaaggcc      720
ttttccacct gtgctgctca ccttgctgtg ttcttgctat tttttggcag tgtggctgtc      780
atgtatttga gattctcagc cacctactca gtgttttggg acacagcaat tgctgtcact      840
tttgttatcc ttgctccctt tttcaacccc atcatctata gcctgaaaaa caaggacatg      900
aaagaggcta ttggaaggct tttccactat cagaagaggg ctggttgggc t               951
```

<210> 558
<211> 831
<212> DNA
<213> Unknown (H38g407 nucleotide)

<220>
<223> Synthetic construct

<400> 558

```
atggctctaa ttggaaacct atccatgatt cttctcatct tcttggacac ccatctccac       60
acacccatgt atttcctact tagtcagctc tccctcattg acctaaatta catctccacc      120
attgttccta agatggcatc tgattttctg tctggtaaca agtctatctc cttcactggg      180
tgtgggattc agagtttctt cttctcggca ttaggaggtg cagaagcact acttttggca      240
tctatggcct atgatcgtta cattgctatt tgctttcctc ttcactatcc catccgcatg      300
agcaaaagaa tgtgtgtgct gatgataaca gggtcttgga tcataggctc gatcaatgct      360
tgtgctcaca ctgtatatgt actccatatt ccttattgcc aatccagggc catcaatcat      420
ttcttctgtg atgtcccagc aatggtgact ctggcctgca tggacacctg ggtctatgag      480
ggcacagtgt ttttgagcac caccatcttt ctcgtgtttc ccttcattgc tatttcatgt      540
tcctatggcc gggttctcct tgctgtctac cacatgaaat ctgcagaagg gaggaagaaa      600
gcctacctga cctgcagcac ccacctcact gtagtaactt tctactatgc accttttgtc      660
tacacttatc tacgtccaag atccctgcga tctccaacag aggacaaggt tctggctgtc      720
ttctacacca tcctcacccc aatgctcaac cccatcatct atagcctgag gaacaaggag      780
gtgatggggg ccctgacacg agtgagtcag agaatctgct ctgtgaaaat g               831
```

<210> 559
<211> 725
<212> DNA
<213> Unknown (H38g408 nucleotide)

<220>
<223> Synthetic construct

<400> 559
atggatagag taaataattc tgcggtatct aaatttgtat tgattggact ttcaagctct 60
tgggagatgc atctttttct tttttggttc ttctctgtgt tctacatggg aattatcctg 120
gaaaatctct tcattgtgtt cacagtaatt attgactctc atttaaattc cccaggtact 180
gcctactggc caacatttat cttcttgatc tgggtcttct cctacagttc tgactttttc 240
actaactgca gcatcatttc ttttccaaga tgcatgatac agatattttt catttgtgtc 300
atgcgtaaaa attgagatgg tgctgctcat aaccatggca tagagcaggt acactgccaa 360
tctgtaagcc tccccattac ctgaccacaa tgaaccccaa aatgtgtgtt tcctttgttg 420
gaggcatcct ggatagtcag gataatccat gctgtatctc agtttgtttt tgccataaac 480
ttgccttttt gtggccctaa tagagtaggt agttttcact gtgattttcc ttatgtcatg 540
aaacttgctt gtgtagatac ttacaaacta gaggttgtag tcactgctaa cagtgggctt 600
atatccatag ctacctgttt cttattaata atatcctata ttttcatttc ggtaaccgtc 660
tagaatcctt cttcaggaga cttatctaaa gcatttgtgt catgttagat cacatcacag 720
taggg 725

<210> 560
<211> 936
<212> DNA
<213> Unknown (H38g409 nucleotide)

<220>
<223> Synthetic construct

<400> 560
atggacacag ggaactggag ccaggtagca gaattcatca tcttgggctt cccccatctc 60
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ggaaacctgc tgatattcct ggtggtctgc ctggactccc ggcttcacac acccatgtac 180
cactttgtca gcattctctc cttctcagag cttggctata cagctgccac catccctaag 240
atgctggcaa acttgttcag tgagaaaaag accatttcat tctctgggtg tctcctgcag 300
atctatttct ttcactccct tggagcgact gagtgctatc tcctgacagc tatggcctac 360
gataggtatt tagccatctg ccggcccctc cactacccaa ccctcatgac cccaacactt 420
tgtgcagaga ttgccattgg ctgttggttg ggaggcttgg ctgggccagt agttgaaatt 480
tccttgattt cacgcctccc attctgtggc cccaatcgca ttcagcacgt cttttgtgac 540
ttccctcctg tgctgagttt ggcttgcact gatacgtcta caaatgtcct agtagatttt 600
gttataaatt cctgcaagat cctagccacc ttcctgctga tcctctgctc ctatgtgcag 660
atcatctgca cagtgctcag aattccctca gctgccggca agaggaaggc catctccacg 720
tgtgcctccc acctcactgt ggttctcatc ttctatggga gcatcctttc catgtatgtg 780
cggctgaaga agagctactc actggactat gaccaggccc tggcagtggt ctactcagtg 840
ctcacaccct tcctcaaccc cttcatctac agcttgcaca acaaggagat caaggaggct 900
gtgaggaggc agctaaagag aattgggata ttggca 936

<210> 561
<211> 635
<212> DNA
<213> Unknown (H38g410 nucleotide)

<220>
<223> Synthetic construct

<400> 561
gaattccttt tttataatta caatcaaaca tcaactgatt tcatcttatt ggggctgttc 60
ccacaatcaa gaattggcct tttcgtattc accctcattt ttctcatttt cctaatggct 120
ctaattggaa atctatccat gattcttctc atctttttgg acatccatct ccacacacct 180
atgtatttcc tacttagtca gctctccctc attgacctaa attacatctc caccattgtt 240
ccaaagatgg tttatgattt tctgtatgga aacaagtcta tctccttcac tggatgtggg 300
attcagagtt tcttcttctt gactttagca gttgcagaag ggctgctcct gacatcaatg 360
gcctatgatc gttatgtggc catttgcttt cctctccact atcccatccg tataagcaaa 420
agagtgtgtg tgatgatgat aacaggatct tggatgataa gctctatcaa ctcttgtgct 480
cacacagtat atgcactctg tatcccatat tgcaagtcca gagccatcaa tcatttttc 540
tgtgagggat cctctgagag gtacctggga gcatgcaagc ttggcgctgg gccgcggtgg 600
aaacggcgtg actggtaaaa ccctgggcgg gccca 635

<210> 562
<211> 789
<212> DNA
<213> Unknown (H38g411 nucleotide)

<220>
<223> Synthetic construct

<400> 562
atgttgggga attactctag cgccactgaa ttttttctct taggcttccc tggctcccaa 60
gaagtatgcc gtatcctatt tgcgaccttc ttcctcttgt atgcagtgac agtgatggga 120
aacgtggtca tcatcatcac tgtctgtgtt gataaatgtc tgcagtcccc catttatttt 180
ttcctgggcc acctctgtgt cctggagatc ctgatcacat ccaccgctgt ccccttttatg 240
ctctgggggt tgctgcttcc aagcacccag atcatgtctt tgacagcctg tgctgcacag 300
ctatatttat acctttcttt gggtaccttg gagttggcat taatgggagt gatggctgtg 360
gaccgttatg tggctgtgtg taaccctttg aggtacaaca tcattatgaa cagcagcacc 420
ttcatttggg tgataattgt gtcatgggtt ttggggtttc tttctgaaat ctggccagtt 480
tatgccactt ttcagcttac tttctgcaaa tcaagtgtgt tagatcattt ttattgtgac 540
cgaggacaat tgctcaaggt atcctgtgag gacactcttt tcagagagtt tattcttttt 600
ctaatggctg ttttcattat cattggttct ttgatcccta cgattgtctc ctacacctac 660
atcatctcca ccaacctcaa gattccgtca gcctctggct ggaggaaatc cttttccacc 720
tgtgcctccc acttcaccta tgttgtgatt ggctatggca gctgcttgtt tctctacgtg 780
aaacccaag 789

<210> 563
<211> 951
<212> DNA
<213> Unknown (H38g412 nucleotide)

<220>
<223> Synthetic construct

<400> 563
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ggctatgtca ggggctggct ttttgtcctg ctgctattgg catacctgtt caccatctgt 120
ggtaacatgc tcatcttctc agtcatccga ctggatgcag ctctgcacac acctatgtac 180
cactttgtca gtgttctttc cttcttggag ttgtggtata cagctaccac tatccctaag 240
atgttgtcta atattctcag tgagaagaaa accatttctt ttgcaggatg cctccttcag 300
acctacttct tccactcctt gggagcgtct gaatgctacc ttcttacagc catggcctat 360
gatagatacc tggccatttg tcggcccctc cactacccta taattatgac caccacactc 420
tgtgccaaga tggctgctgc ttgttggact tgtggcttcc tgtgtcccat ttctgaggtc 480
atccttgcct cccagctccc atttgtgct tacaatgaaa tccaacacat tttctgtgac 540
tttccacctt tgctgagctt ggcctgcaag gacacatctg ctaacattct ggtggacttt 600
gccattaatg ctttcataat tcttatcact ttcttcttta tcatgatttc ttatgcaagg 660
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tgtgcctcac atcttgctgt ggtcctcatc ttctttggga gcatcatctt catgtatgtg 780
cggctaaaga agagctattc cctgaccctt gaccgaacac ttgctatagt ttactccgta 840
ctaacaccaa tggtcaatcc aattatctac agtcttcgta acaaggaaat cattaaagct 900
atcaagagga ccatcttcca gaagggagat aaagctagtc ttgctcatct t 951

<210> 564
<211> 945
<212> DNA
<213> Unknown (H38g413 nucleotide)

<220>
<223> Synthetic construct

<400> 564
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ccccacctcc agctgatgct cttcctgctg ttcctgctga tgtacctgtt cacgctgctg 120
ggcaacctgc tcatcatggc cactgtctgg agcgagcgca gcctccacat gcccatgtac 180
ctcttcctgt gtgccctctc catcaccgag atcctctaca ccgtggccat catcccgcgc 240
atgctggccg acctgctgtc cacccagcgc tccatcgcct tcctggcctg tgccagtcag 300
atgttcttct ccttcagctt cggcttcacc cactccttcc tgctcactgt catgggctac 360
gaccgctacg tggccatctg ccacccctg cgttacaacg tgctcatgag cctgcggggc 420
tgcacctgcc gggtgggctg ctcctgggct ggtggcttgg tcatggggat ggtggtgacc 480
tcggccattt tccacctcgc cttctgtgga cacaaggaga tccaccattt cttctgccac 540
gtgccacctc tgttgaagtt ggcctgtgga gatgatgtgc tggtggtggc caaaggcgtg 600
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ttcatcgtgg ccgccatctt gaagatccct tctgctgaag gtcggaacaa ggccttctcc 720
acctgtgcct ctcacctcac tgtggtggtc gtgcactatg gctttgcctc cgtcatttac 780
ctgaagccca aaggtcccca gtctccggaa ggagacacct tgatgggcat cacctacacg 840
gtcctcacac ccttcctcag ccccatcatc ttcagcctca ggaacaagga gctgaaggtc 900
gccatgaaga agacttgctt caccaaactc tttccacaga actgc 945

<210> 565
<211> 958
<212> DNA
<213> Unknown (H38g414 nucleotide)

<220>
<223> Synthetic construct

<400> 565
cacacagagc cacggcatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcctgt cctcgctggg ctgtccccat ccatgtatct ggtcacagtg 120
ctgaggaacc tgctcgtcat cctggctgtc agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaaccc gtgctgggct gacatcggtt tcacttcggc cacggttccc 240
aagatgactg tggacatgca gtcacatatc agagtcatct cttatgcgag ctgcctgaca 300
cggatgtctt tcttggtcct ttttgcatgt atagaagaca tgctcctgac tgtgatggcc 360
taggactgct ttgtagccat ctgtcgccct ctgcactacg cagtcatcgt gaatcctcac 420
ctctgtgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
agttagattg ttacaattca ccttcttcaa gaatgtggaa atctctcatt ttgtctgtga 540
gccatctcaa cttctcaacc ttgcctgttc tgacagcgtc atcaatagca tattcatgta 600
tttcaatagt actatgtttg gttttcttcc catttcaggg atccttttgt cttactataa 660
aattgttccc tccattctaa ggatttcatc gtcagatggg aagtataaag ccttctccac 720
ctgtggctct cacctggcag ttgtttgctt attttatgga acaggcattg gcatgtacct 780
gacttcagct gtggcaccac cccccaggaa tggtgtggtg gcgtcagtga tgtacgctgt 840
ggtcaccccc atgctgaacc ctttcatcta cagcctgaga aacagggaca ttcaaagcgc 900
cctgtggagg ctgcgcagca gaacagtcga atctcatgat ctgttccatc ctttttct 958

<210> 566
<211> 470
<212> DNA
<213> Unknown (H38g415 nucleotide)

<220>
<223> Synthetic construct

<400> 566
gtctccccac tgtgggaatg tgtgtcatga cagcggtctc cccacttctt atgctctgga 60
gactcagttt tctgtctggt tcacagtgta ggctgctgca cactacttct ttcacagagt 120
ttgcggcttc tttcagtttt cctgttaagt tcctgtgctg cttcttggaa aaaagtccac 180
agcatgaatc tctacacacc atttgtcttt tctaagtggt agaatcacgt taacaatgcc 240
ttcaacctgc catcatggaa aaaaagtaaa agtgtggtca ccatgttcta agggcccgcc 300
atgatcacgt acttgaggtc tgactcctag tataacctac agtgggaaaa cagttggtgc 360
tgttctacag cattgtctct gccttcataa aacccatcat ctccagcctc aggaacaagg 420
atgtaaaagg ggcttcttgg aaagtactta gagtcaaagg gacagctcaa 470

<210> 567

<211> 862
<212> DNA
<213> Unknown (H38g416 nucleotide)

<220>
<223> Synthetic construct

<400> 567
atggaaaatt acaatcaaac atcaactgat ttcatcttat tggggctgtt tccaccatca 60
agaattgacc ttttcttctt cattctcttt gttctcattt tcctgatggc tctaattgga 120
aacctatcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180
ctgcttagtc agctctccct cattgaccta aattacatct ctacgattgt tcctaagatg 240
gcttctgatt ttctgtatgg aaacaagtct atctccttca ttgggtgtgg gattcagagt 300
ttcttcttca tgacttttgc aggtgcagaa gcgctgctcc tgacatcaat ggcctatgat 360
cgttatgtgg ccatttgctt tcctctccac tatcccatcc gtatgagcaa aagaatgtat 420
gtgctgatga taacaggatc ttggatgata ggctccatca actcttgtgc tcacacagta 480
tatgcattcc gtatcccata ttgcaagtcc agagccatca atcatttttt ctgtgatgtt 540
ccagctatgt tgacattagc ctgtacagac acctgggtct atgagtacac agtgtttttg 600
agcagcacca tctttcttgt gtttcccttc actggcattg cgtgttccta tggctgggtt 660
ctccttgctg tctaccgcat gcactctgca gaaggaggaa aaaggcctat tcgacctgca 720
gcacccacct cactgtagta actttctact atgcaccctt acgttatacc tatctatgtc 780
caagatccct gtttatttct gacagaggac aaggttgggg ggggggggt acaccatcct 840
cacctcaatg ctcaacccca tc 862

<210> 568
<211> 930
<212> DNA
<213> Unknown (H38g417 nucleotide)

<220>
<223> Synthetic construct

<400> 568
atggataaag aaaacagctc aatggtgact gagtttatct tcatgggcat cacccaggac 60
cctcagatgg agatcatctt cttcgtggtc ttcctcatag tttacctggt taatgtagtg 120
gggaatattg gtatgattat cctgattaca acagacactc agcttcacac acccatgtat 180
tttttcctct gcaacctctc ctttgttgac ctgggctact cctcagccat tgcccccagg 240
atgctggctg acttcctaac aaatcacaaa gttatctcct tctccagctg tgccacccag 300
tttgcttttt ttgtaggttt tgtggatgct gagtgctatg tcctggcagc catggcctat 360
ggtcgttttg tggccatttg tcgacccctc cactatagca ccttcatgtc caagcaggtc 420
tgcttggctc tcatgctggg ctcttacctg gctggtctag tgagtttagt agcccacact 480
accctcacct tcagcctgag ttactgtggt tccaatatca tcaatcattt cttctgcgaa 540
atcccaccac tcttggccct ctcttgctca gacacctaca tcagtgagat cttgctcttc 600
agtctgtgtg gcttcattga attcagcacc atcctcatca tcttcatctc ctataccttt 660
atccttgttg caatcatcag aatgcgttca gctgaaggcc gccttaaggc tttctccacc 720
tgcgggtctc accttactgg catcaccctc ttctatggca cagtcatgtt tatgtacctg 780
aggccaacat ccagctactc cctggaccaa gacaagtggg cctctgtgtt ctacacggtt 840
atcatcccca tgttaaatcc cttgatctac agtttgcgga acaaggatgt gaaagctgct 900
ttcaaaaagc taattggaaa aaaatctcaa 930

<210> 569
<211> 1005
<212> DNA
<213> Unknown (H38g418 nucleotide)

<220>
<223> Synthetic construct

<400> 569
tctacagacc cacagaatct aatagatgtc tctatattcc tcctcctaga acctcagagg 60
atccagaacg gcagctggtc cttgctgggc tgttcctgtc catgtgcctg gtcacggtgc 120

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tggggaacct gctcatcatc ctggccgtca gtcctgactc ccacctccac acccccatgt    180
acttcttcct ctccaaccta tccttgcctg acatcggttt cacctccacc acggtcccca    240
agatgattgt ggacatccga tctcacagca gagtcatctc ctatgcaggc tgcctgactc    300
agacgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg    360
gcctatgacc agtttgtagc catctgtcac cctctatatc attcagccgt catgaaccct    420
tgtttctgtg gctttctagt tttgttgact tttttttttc tcagtctttt agacgcccag    480
ctgcacaact tgattgcctt acaaatgacc tgcttcaagg atgtggaaat tcctaatttc    540
ttctgtgacc cttctccact cccccatctt gcatgttgtg acaccttcac caataacata    600
atcatgtatt tccctgctgc catatttggt ttcttcccca tctcggggac ccttttctct    660
tactataaaa ttgtttcctc cattctgagg gtttcatcat caggtgggaa gtataaggcc    720
ttctccacct gtgggtctca cctgtcggtt gtttgctgat tttatggaac aggcattgga    780
gggtacctca gttcagatgt gtcatcttcc ccgagaaagg ctgcggtggc ctcagtgatg    840
tacacggtgg tcacccccat gctgaacccc ttcatctaca gcctgagaaa cagggatatt    900
aaaagtgtcc tgcggtggct gcacggcagc tctgtctaat ctcaacatct tcttatctgt    960
tgcattcctt ttgtagtgtg ggttaaaaaa ggcagcaggg tcaaa                   1005
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<210> 570
<211> 907
<212> DNA
<213> Unknown (H38g419 nucleotide)

<220>
<223> Synthetic construct

<400> 570

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atggatcacg tcagtcataa ctggactcag agttttatcc ttgctggttt caccaccact     60
gggaccctac aacctcttgc cttcttgggg accctatgca tctatctcct cacacttgca    120
gggaacattc tcatcattgt cctggtacag ttagattctg gactgttcac gcccatgtac    180
ttatttatca gtgtcctctc ctttgtagag gtgtggtatg tcagcaccac agtgcccatg    240
ctgctgcaca ccttgctcca agggtgttca cccgtctcat cagctgtatg ctttattcag    300
ctatgtcttt cattccttag ggatgactga gtgctacctg ctgggtgtca tggcactgga    360
tagctacctt atcatctgcc acccactcca ctaccacgca ctcatgagca gacaggtaca    420
gttacgacta gctggggcca gttgggtggc tggcttctca gctgcacttg tgccagccac    480
cctcactgcc actctgccct tctgcttgaa agaggtggcc cattactttt gtgacttggc    540
accactaatg cggttggcat gtgtggacac aagctggcat gctagggccc atggcacagt    600
gattggtgtg gccactggtt gcaactttgt gctcattttg ggactctatg gaggtatcct    660
gaatgctgtg ctgaagctac cctcagctgc cagtagtgcc aaggccttct ctacctgttc    720
ctcccacgta actgtggtgg cactattcta tgcttctgcc ttcacagtat atgtgggctc    780
acctgggagt cgacctgaga gcacagacaa gcttgttgcc ttggtttatg cccttattac    840
ccctttcctc aatcctatca tctatagcct tcgcaacaag gaggtgaaga aggctttaag    900
gagagtc                                                              907
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<210> 571
<211> 1006
<212> DNA
<213> Unknown (H38g420 nucleotide)

<220>
<223> Synthetic construct

<400> 571

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ccaacgaaga gagagaacca cacagtgata agggagtttg ttttccaggg tttctccagc     60
tttcatgaac acaagcttac cctctttgtg gtatttctta ccttgtgtct tttaaccctg    120
gctggcaatg tcataattgt gacaattatc agcattgatc gtcaccttca cacccccatg    180
tacttctttg ttagtatgct ttccacttca gagactgtct acacattagt cattgtacca    240
cggatgctct ccagtctctt aagtctaagc caacctatct ctttgggtgg ctgtgccacc    300
cagatgtttt ttttattacc ttggccatca acaactgctt tctgctcaca gcaatggggt    360
atgatcgcta tgtggccatc tgtaaccctt tgaggtacat gatcatcatg aacaagaaag    420
tgtgtgtcca gctggtatgt gggtcctgca gtgttgggct gcttgtggcc atagttcaga    480
tttcatctgt gttcaggctg ccttttttgtg ataaacaggt ggcccattat ttctgtgata    540
tccacccagt tatgaaactt tcctgtgttg ataccactct acatgaccta attaattttg    600
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ttgttagttc cctggttatt gtggtgccgc tgggtttggt cttcatctcc tacatcctca 660
tcatctctac catcctcaag gtcacctctc ctgagggccg gaaaaaggct tttgcaactt 720
gtgcctccca cctcactgtg gttatcatcc actatggctg tgcctccatt gcctacctca 780
agcccaagtc agagaacacc agggatcagg accagctaat ttcagtgaca tacaccgtct 840
ttactccact acttaatcct gttgtgtaca ctttgaggaa caaggaggtc aagaatgccc 900
ttcaccgtgc tattggcaaa aaaccttttg cctagaatct tcatcagttt gacatatagt 960
cagtcatagt ctgggtattt ttttaagctc gagaaaattg aatcct 1006

<210> 572
<211> 945
<212> DNA
<213> Unknown (H38g421 nucleotide)

<220>
<223> Synthetic construct

<400> 572
atgtccataa ccaaagcctg gaacagctca tcagtgacca tgttcatcct cctgggattc 60
acagaccatc cagaactcca ggccctcctc tttgtgacct tcctgggcat ctatcttacc 120
accctggcct ggaacctggc cctcattttt ctgatcagag gtgacaccca tctgcacaca 180
cccatgtact tcttcctaag caacttatct ttcattgaca tctgctactc ttctgctgtg 240
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atggcatacg accgatatgc agccatctcc agccccccttc tctaccccac tatcatgacc 420
cagggcctct gtacacgcat ggtggttggg gcatatgttg gtggcttcct gagctccctg 480
atccaggcca gctccatatt taggcttcac ttttgcggac ccaacatcat caaccacttc 540
ttctgcgacc tcccaccagt cctggctctg tcttgctctg acaccttcct cagtcaagtg 600
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tatggttaca tagtgtctgc ggtcctgaag atcccttcag cagagggccg atggaaagcc 720
tgcaacacgt gtgcctcgca tctgatggtg gtgactctgc tgtttgggac agcccttttc 780
gtgtacttgc gacccagctc cagctacttg ctaggcaggg acaaggtggt gtctgttttc 840
tattcattgg tgatccccat gctgaaccct ctcatttaca gtttgaggaa caaagagatc 900
aaggatgccc tgtggaaggt gttggaaagg aagaaagtgt tttct 945

<210> 573
<211> 949
<212> DNA
<213> Unknown (H38g422 nucleotide)

<220>
<223> Synthetic construct

<400> 573
atgccttgaa agatggagtc aataaacaca aacttcactg tcactgaatt tgtgttcctg 60
gggttgtcct ctgaaccaaa gatacagctt attcttttta ttatgttctt gttctattta 120
tcaacggtgg ctggaaatgt tataatcatc actattatct agatggaacc tctcctccaa 180
acccccatgt acttcttcct cactaattta tcctttctgg acatttgcta cacatccacc 240
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aaaacacctg cattcaactg gcagttattt cttggtccag tagcttcctg agttccatgg 480
ttatcaatgt tctcacgttg agtttgccct actgtgggcc taatatcctg aatcactttt 540
tctgtgaggt actttctgtc ctgaggttgg cttgcaccaa cacctcattc acagagctgg 600
ttgtttttat cttcagtatc atcattgtct tcatcccttt cctcctcatt gttgtttcct 660
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tatccacctg tacctcccat ttgacagtgg taaccttatt tatgggactg ccatcttcat 780
ggacatgaga ccacagtcga ggtcctcctg ggctggcggc aagatcattg cggttttcta 840
cacggtggtc acacccatgc ttaacccctt gatttacagc ctgaggaacc aagatgtgaa 900
aggagctcga aggagagcta ttgcaaagca gaggatgtga cagctgtta 949

<210> 574

<211> 1022
<212> DNA
<213> Unknown (H38g423 nucleotide)

<220>
<223> Synthetic construct

<400> 574
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aggcggcagc acaaacttgt cttctttgtt gtcttcctaa ctttgtacct gctgactctc 120
tctggcaatg tgattatcat gaccattatt cgcctggacc atcatcttca cacccccatg 180
tacttcttcc tgtgcatgct atccatctct gagacctgct acactgtggc catcattccc 240
catatgcttt ctggtctctt gaatcctcat cagcccattg ccacccaaag ctgtgccact 300
cagctcttct tctatctcac ctttggcatc aacaactgct tcctgctcac agtcatggga 360
tatgaccgct atgtggccat ctgcaacccc ctaaggtatt cagtcatcat gggtaagagg 420
gcctgtatcc aactggcctc tggatcactg ggattggcc ttggcatggc cattgtccaa 480
gtaacatctg tgtttggcct gccattctgt gatgcctttg tcatctccca cttcttctgt 540
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tttgttgtca gcgtctgtgt ccttgttcta cctatgggcc tggtctttat ctcctatgtc 660
ctcatcatct ccaccattct taagattgcc tcagctgaag gtcagaagaa ggcctttgcc 720
acctgcgcct cccacctcac agtggtcatc atccactatg gctgtgcctc catcatctac 780
ctgaagccta agtcccagag ttccctggga caggacagac tcatctcagt gacctacact 840
catcactccc ctactgaacc ctgttgtgta cagcctgaag aacaaggagg tcaaagatgc 900
tctgcacaga gccgtggggc aaaaaactct gtctccttaa tgaagagagg ttgtgaaggc 960
ttttcctttg cgtttataaa tatgtactaa tttttaatgc tctttcaata atgcccttat 1020
gt 1022

<210> 575
<211> 938
<212> DNA
<213> Unknown (H38g424 nucleotide)

<220>
<223> Synthetic construct

<400> 575
atggatattg gcctgagtat agccaatagc tcagggtttc aactgtctga gttcattctg 60
atagggttcc caggcattca tgagtggcag cactggctct ccctgccctt agctcttggt 120
gccaatctcc tcatcataat caccattcaa catgagacca tgctacatga acccatgtac 180
catttgctgg gcatattagc agtggtggac attggcctgg ccaccaccat catgcccaag 240
atcctggcca tcttctggtt tgatgccaag gccatcagcc tccctgagtg ttttgctcag 300
atctatgcca tccactcttt catgtgcatg gagtcaggca tcttcctctg catggcagtg 360
gatagatata tggccatttg ttatcccctt cagtacactt ccatagttac tgaagctttt 420
gtcatcaaag ccacactgtc agtagtgctc aggaatggcc tgttgaccat cccagtgcca 480
gtattggctg cccagcgaca ctactgctcc aggaatgaga ttgatcagtg cctctgctct 540
aacttggggg tcacaagtct ggcctgtgat gacaccacta ttaacaggtt ttaccagctg 600
gccttggtct gggttgtggt tgggagtgac atgggtctgg tctttgcttc ctattctttg 660
attattcact cagtgctgaa gctgaactct gctaaagcaa catctaaggc cctgaatacc 720
tgcagctccc accttatcct cattctcttt ttctacacag ctattattgt agtatctgtc 780
accacctggc aggaagaagg gctccccgca tccctgttct cctcaatgtg ctgcatattg 840
tcatcccctc agcccttaac cccatagtat atgcccttag gacctaggag ctgagagcgg 900
gcttccagaa gctgcttggt ttgggcgagt atgtgtcc 938

<210> 576
<211> 945
<212> DNA
<213> Unknown (H38g425 nucleotide)

<220>
<223> Synthetic construct

<400> 576
atgttctccc caaaccacac catagtgaca gaattcattc tcttgggact gacagacgac 60
ccagtgctag agaagatcct gtttggggta ttccttgcga tctacctaat cacactggca 120
ggcaacctgt gcatgatcct gctgatcagg accaattccc acctgcaaac acccatgtat 180
ttcttccttg gccacctctc ctttgtagac atttgctatt cttccaatgt tactccaaat 240
atgctgcaca atttcctctc agaacagaag accatctcct acgctggatg cttcacacag 300
tgtcttctct tcatcgccct ggtgatcact gagttttaca tccttgcttc aatggcattg 360
gatcgctatg tagccatttg cagccctttg cattacagtt ccaggatgtc caagaacatc 420
tgtgtctgtc tggtcactat cccttacatg tatgggtttc ttagtgggtt ctctcagtca 480
ctgctaacct ttcacttatc cttctgtggc tcccttgaaa tcaatcattt ctactgcgct 540
gatcctcctc ttatcatgct ggcctgctct gacacccgtg tcaaaaagat ggcaatgttt 600
gtagttgcag gctttaatct ctcaagctct ctcttcatca ttcttctgtc ctatcttttc 660
atttttgcag cgatcttcag gatccgttct gctgaaggca ggcacaaagc cttttctacg 720
tgtgcttccc acctgacaat agtcactttg ttttatggaa ccctcttctg catgtacgta 780
aggcctccat cagagaagtc tgtagaggag tccaaaataa ctgcagtctt ttatactttt 840
ttgagcccaa tgctgaaccc attgatctat agcctacgga acacagatgt aatccttgcc 900
atgcaacaaa tgattagggg aaaatccttt cataaaattg cagtt 945

<210> 577
<211> 771
<212> DNA
<213> Unknown (H38g426 nucleotide)

<220>
<223> Synthetic construct

<400> 577
atgtttctac tgttggccat cctggcagcc acagacctgg gcttagccac atctatagcc 60
ccagggttgc tggctgtgct gtggcttggg ccccgatctg tgccatatgc tgtgtgcctg 120
gtccagatgt tctttgtaca tgcactgact gccatggaat caggtgtgct tttggccatg 180
gcctgtgatc gtgctgcggc aatagggcgt ccactgcact accctgtcct ggtcaccaaa 240
gcctgtgtgg gttatgcagc cttggccctg gcactgaaag ctgtggctat tgttgtacct 300
ttcccactgc tggtggcaaa gtttgagcac ttccaagcca agaccatagg ccatacctat 360
tgtgcacaca tggcagtggt agaactggtg gtgggtaaca cacaggccac caacttatat 420
ggtctggcac tttcactggc catctcaggt atggatattc tgggtatcac tggctcctat 480
ggactcattg cccatgctgt gctgcagcta cctacccggg aggcccatgc caaggccttt 540
ggtacatgta gttctcacat ctgtgtcatt ctggccttct acatacctgg tctcttctcc 600
tacctcgcac accgctttgg tcatcacact gtcccaaagc ctgtgcacat ccttctctcc 660
aacatctact tgctgctgcc acctgccctc aaccccctca tctatggggc ccgcaccaag 720
cagatcagag accgactcct ggaaaccttc acattcagaa aaagcccgtt g 771

<210> 578
<211> 1074
<212> DNA
<213> Unknown (H38g427 nucleotide)

<220>
<223> Synthetic construct

<400> 578
gtgagcatga gcttcttaat aagaagtgat tcaacactac acactccaat gtgcttgttc 60
ctcagtcatc tctcctttgt agatctctat tatgccacca atgccactcc tccgatgctg 120
gttaactttt tttttccaag agaaaaaccg tttcctttat tggttgcttt atccaatttc 180
accttttcat tgcactggtg atcacagatt atcatatgct cacagtgatg gtgtatgacc 240
actacatggc catctgcaag cctttgttat atggaagcaa aatgtccagg tgtgtctgcc 300
tctgtctcac tgctgctccc tatatttatg gctctgcaaa tggtctggta caggtcatcc 360
tgatgctttg tctgttcttc tgtgaaccca atgagatcaa ccactttttt tttttggag 420
aaaatgcatt atatgcacat ttaattccac tataaatttt tgaatggacg gttggagagg 480
aagggagaaa tacatattaa cggagagaat accacccaga aagtatatac aatgggagaa 540
aggaacctgt tgatccaagt ttccatattc ttattatggc atataaggtc atgattattt 600
tctcagtatg aagcatctcc cagggctgac tctgatgtaa aattggagat caaccacttt 660

```
tattatgcag aaccacccct cttagtcctc gcctgcttgg atacttatgt caaagaaact    720
gccatgttca tggtggctgg ttccaacctc atctgccctc tcactatcat ctttatttcc    780
tacactttca tcttcacaga cattctgcat atctgcactg ctgagggaag gtacaatgcc    840
ttctccacct gcgggtccct tgtgactgcc gtcactgtct ttcaaggaac gctgtttcac    900
atgtgcctga ggccccttc tgaggcatct gtagaacagg ggaaaattgt agctgctttt    960
tatatctttg tgagtcctac gttaaaccca ttgatctacc gtctgaggaa taaaaatgtt   1020
aaaagaacaa taagggaagt tatccaaaag aaactgtttg ctaagtaagg taga         1074
```

<210> 579
<211> 937
<212> DNA
<213> Unknown (H38g428 nucleotide)

<220>
<223> Synthetic construct

<400> 579

```
atgtttggtg ctaatctcac caccttccat cccactctat tcattctcct tggcatccca     60
ggactggagc aataccacat ctggctttcc attcctttct accttatgta catcactgca    120
gtcttgggaa atggagccct catcctagtt gtcctcagtg aacacaccct ccatgtcttc    180
ctatccatgc tggctggcac tgatatcctg ctatccacca ccactgtgcc taaggccttg    240
gcgatcttct gggtccacgc tggggagata gcctttgatg cctgcattac tcagatgttt    300
ttcattcatg ttgcctttgt ggctgagtca ggaatcctgc tggccatggc atttgacagt    360
tatgtagcca tttgtactcc cttgagatac actaccatct taacttctat ggtaaatgga    420
aaaatgaccc tgacaatctg ggacaaagc attgggacaa tttttcctgt catattcctg    480
ctgaagaggc tgccatactg tcagaccaat atcatccccc actcatactg tgagcacatt    540
ggggtggccc aattggcctg tgctgacata actgtcaata tctggtatgg cttttcagtg    600
ccaatggcat cggttttggt agatgttgca ttcattggtt tttcctacac tttgatcctc    660
caggctgtgt ttagacttcc ttcccaggag tcccagcaca aagctcttaa cacctgtggt    720
tctacattgg agttgttctc ctcttcttca tcccatcatt ttttactttc ctgacccacc    780
gctttggcaa gaatatcccc catcatgtcc acatacttct ggcaaatctc tacttgcttg    840
ttcccccatg cttaacccca ttatctacgg agagaagacc aagcaaatca gggacagtat    900
ggctcatatg ttatctgtgg tggggaagtc ttgagac                             937
```

<210> 580
<211> 941
<212> DNA
<213> Unknown (H38g429 nucleotide)

<220>
<223> Synthetic construct

<400> 580

```
atgaagatga agatagatcc caaatgcaat ggcacggagg taactgaatt tattctgttg     60
ggactgacta gccagccaga gctgcagcct atgctctttg tggtattcct cctgatttac    120
ctcatcaccc tgactgggaa atttgggatg atttcctaa tcagattcac tcctcagctc    180
caaacccaca tgtatttttt ccttactcat ttagcatgtg tggatatttt ttactccact    240
aatgtctctc cacagagctt gttaatttct tatctgagaa gaagaccatt tcctacgctg    300
ggtgtctggc ccagtgtttt gtctttgtga ctctgctcct tactgagtat tacatgcttg    360
gtgccatggc ctatgactgc tacatggcaa tctgcaatcc cctacattac agcagcaaaa    420
tgtccagagc agtttgcatc tgcctggtga ctttccccta cttctggggt tctatggtgg    480
gcacgatgca agtaatactg acctctcgtt tgtccttttt tggacccaac accatcaacc    540
atttctactg tactgaccca cccctcttaa tgttgacatc ttctgacact tacataaaac    600
aaactgcctt gtttgtgtca gcagggatta acctcacagt ttccctgctc atcattctca    660
tctcctacat tttcattttc atcaccatta tgaggatccg ttccagtgaa gggcagctca    720
aagccttctc cacctgtggc tcccacctga cagctgtcac tatgttctat gggtccctat    780
tctgcatgta cctgagacca acaaatgagc tgtctgttga gcaagggaaa atgggagtgg    840
tgttttgtat ttttgtgagt cccatgctga acccgtttat ctaccgcctg agaaacaagg    900
atgtgaaaca ggccttgaaa agagtgttta tgagaaacct t                        941
```

<210> 581

<211> 958
<212> DNA
<213> Unknown (H38g430 nucleotide)

<220>
<223> Synthetic construct

<400> 581
atgagtcttc tattctgaga ctaagatatg agaaacttta caccactgtc tggatttatt 60
atcctgggat tcacggatca cccagaatta cagtgtcttc tttttgtgtt gtttcttctc 120
atctatatgt tcaccgttgt tggaaatctt ggcatgattc tattaatcaa gattgactca 180
catctccata ctccaatgta ctttttcctc agtaacttgt gccttgttga cttctgttat 240
tcttctgtca ttgcccctaa tatgctgata aatttctggg tggagaaccc agtcatttca 300
tttaatgaat gtgccactca attcttcttt tttggctcct ttgctggcat tgagggtttt 360
ctgttggctg tcatggccta tgactgttat gtggccatct gcaagcctct gctttataca 420
gtcctgatgt caccccacct cagtgccctc ctggtgttag ccacatatct tttgggcttt 480
gtaaatgctg ccattcacac tggcttcacc ttccagctgt cattctgcca ctccaatatc 540
attaactatt ttttttgtga tattccaccc ctcctgaaac tcttgttctg atacacacat 600
caatgaggtt gtcatttttg cctttgccag ttttaatgaa ttgagctgtc tcctactgat 660
tcttgtttcc tgtctctaca tccttgctgc catcttgaag atccactctg cagaagggag 720
gcacaaggcc ttctccacct gtgcttccca cttggcggtg gtcactatct tctttgggac 780
aatcctgttc atgtatctct gcgtcccagc tccagctact caatggatca agacaaagtg 840
gtgtctgtct tacacagtag tcatccccat gttgaatcct ttcatctata gtttgagaaa 900
caaggaagtc aaagcttctt taagtaaaat gtttaaaaca gtctcttata tctctact 958

<210> 582
<211> 897
<212> DNA
<213> Unknown (H38g431 nucleotide)

<220>
<223> Synthetic construct

<400> 582
atgggattac caggcattca tgagtggcag cactggctct ccctgcccct gactctgctc 60
tacctcttag ctcttggtgc caacctcctc atcataatca ccattcaaca tgagaccgtg 120
ctacatgaac ccatgtacca tttgctgggc atattagcag tggtggacat tggcctggcc 180
accaccatca tgcccaagat cctggccatc ttctggtttg atgccaaggc cattagcctc 240
cccatgtgtt ttgctcagat ctatgccatc cactgcttct tctgcataga gtcaggcatc 300
tttctctgca tggcagtaga cagatacata gccatctgtc gccctcttca gtacccctcc 360
atagtcacta aagcttttgt cttcaaagcc acagggttca tcatgctcag gaatggcctg 420
ttgaccatcc cagtgcctat actggctgcc cagagacact actgttccag gaatgaaatc 480
gagcactgcc tctgctctaa cttggggggtt atcagcctgg cttgtgatga catcactgtg 540
aacaaatttt accaactgat gctagcatgg gtcttggttg ggagtgatat ggctctggta 600
ttttcttcct atgctgtaat ccttcactct gtgctgaggc tgaactcagc agaagcaatg 660
tccaaggctc tgagcacttg tagctcccac ctcatcctca tcctcttcca cacaggtatc 720
attgtgctgt ctgtcacaca ccttgcagag aaaaagattc cccttattcc tgtgttcctt 780
aatgtgctgc acaatgtcat cccccctgca ctcaaccccc tggcctgtgc actcaggatg 840
cacaaactca gactgggctt tcagagactg cttggactgg gtcaggacgt gtccaag 897

<210> 583
<211> 951
<212> DNA
<213> Unknown (H38g432 nucleotide)

<220>
<223> Synthetic construct

<400> 583
atgatgagac ttatgaaaga ggttcgaggc agaaatcaaa cagaagtaac agaatttctc 60
ctcttaggac tttccgacaa tccagatcta caaggagtcc tctttgcatt gtttctgttg 120

```
atctatatgg caaacatggt gggcaatttg gggatgattg tattgattaa gattgatctc     180
tgtctccaca cccccatgta tttctttctc agtagcctct cttttgtaga tgcctcttac     240
tcttcttccg tcactcccaa gatgctggtg aacctcatgg ctgagaataa ggccatttct     300
tttcatggat gtgctgccca gttctacttc tttggctcct tcctggggac tgagtgcttc     360
ctgttggcca tgatggcata tgaccgctat gcagccattt ggaacccccct gctctaccca     420
gttctcgtgt ctgggagaat ttgcttttttg ctaatagcta cctccttctt agcaggttgt    480
ggaaatgcag ccatacatac agggatgact tttaggttgt ccttttgtgg ttctaatagg     540
atcaaccatt tctactgtga caccccgcca ctgctcaaac tctcttgctc tgatacccac     600
ttcaatggca ttgtgatcat ggcattctca agttttattg tcatcagctg tgttatgatt     660
gtcctcattt cctacctgtg tatcttcatt gccgtcttga agatgccttc gttagagggc     720
aggcacaaag ccttctccac ctgtgcctct tacctcatgg ctgtcaccat attctttgga     780
acaatcctct tcatgtactt gcgccctaca tctagctact caatggagca agacaaggtt     840
gtctctgtct tttatacagt aataatccct gtgctaaatc ccctcatcta tagtttaaaa     900
aataaggatg taaaaaaggc cctaaagaag atcttatgga aacacatctt g              951
```

<210> 584
<211> 951
<212> DNA
<213> Unknown (H38g433 nucleotide)

<220>
<223> Synthetic construct

<400> 584

```
atgagtcaca ccaatgttac catcttccat cctgcagttt ttgtccttcc tggcatccct      60
gggttggagg cttatcacat ttggctgtca atacctcttt gcctcattta catcactgca     120
gtcctgggaa acagcatcct gatagtggtt attgtcatgg aacgtaacct tcatgtgccc     180
atgtatttct tcctctcaat gctggccgtc atggacatcc tgctgtctac caccactgtg     240
cccaaggccc tagccatctt ttggcttcaa gcacataaca ttgcttttga tgcctgtgtc     300
acccaaggct tctttgtcca tatgatgttt gtgggggagt cagctatcct gttagccatg     360
gcctttgatc gctttgtggc catttgtgcc ccactgagat atacaacagt gctaacatgg     420
cctgttgtgg ggaggattgc tctggccgtc atcacccgaa gcttctgcat catcttccca     480
gtcatattct tgctgaagcg gctgcccttc tgcctaacca acattgttcc tcactcctac     540
tgtgagcata ttggagtggc tcgtttagcc tgtgctgaca tcactgttaa catttggtat     600
ggcttctcag tgcccattgt catggtcatc ttggatgtta tcctcatcgc tgtgtcttac     660
tcactgatcc tccgagcagt gtttcgtttg ccctcccagg atgctcggca caaggccctc     720
agcacttgtg gctcccacct ctgtgtcatc cttatgtttt atgttccatc cttctttacc     780
ttattgaccc atcattttgg gcgtaatatt cctcaacatg tccatatctt gctggccaat     840
ctttatgtgg cagtgccacc aatgctgaac cccattgtct atggtgtgaa gactaagcag     900
atacgtgagg gtgtagccca ccggttcttt gacatcaaga cttggtgctg t              951
```

<210> 585
<211> 915
<212> DNA
<213> Unknown (H38g434 nucleotide)

<220>
<223> Synthetic construct

<400> 585

```
atgcagagga gcaatcatac agtgactgag tttatactgc tgggcttcac cacagaccca      60
ggaatgcagc tgggcctctt cgtggtgttc ctgggcgtgt actctctcac tgtggtagga     120
aatagcaccc tcatcgtgtt gatctgtaat gactcctgcc tccacacacc catgtatttt     180
gtcgctggaa atctgtcgtt tctggatctc tggtattctt ctgtctacac cccaaagatc     240
ctagtgacct gcatctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc     300
ttcttctctg cagggctggc ctatagtgag tgctacctgc tggctgccgt ggcttatgac     360
cgctacgtgg ccatctccaa gcccctgctt tatgcccagg ccatgtccat aaagctgtgt     420
gcattgctgg tagcagtctc atattgtggt ggctttatta actcttcaat catcaccaag     480
aaaacgtttt cctttaactt ctgccgtgaa aacatcattg atgacttttt ctgtgatttg     540
cttcccttgg tggagctggc ctgtggcgag aagggcggct ataaaattat gatgtacttc     600
ctgctggcct ccaatgtcat ctgccccgca gtgctcatcc tggcctccta cctctttatc     660
```

atcaccagtg tcttgaggat ctcctcctcc aagggctacc tcaaagcctt ctccacatgc 720
tcctcccacc tgacctctgt cactttatac tatggctcca ttctctacat ctacgctctc 780
cccagatcta gctattcttt tgatatggac aaaatagttt ctacatttta cactgtggta 840
ttccccatgt tgaatctcat gatctacagc ctaaggaata aggatgtgaa agaggctctg 900
aaaaaacttc tccca 915

<210> 586
<211> 942
<212> DNA
<213> Unknown (H38g435 nucleotide)

<220>
<223> Synthetic construct

<400> 586
atgcttccct ctaatatcac ctcaacacat ccagctgtct tttgttggt aggaattcct 60
ggtttggaac acctgcatgc ctggatctcc atccccttct gctttgctta tactctggcc 120
ctgctaggca actgtaccct tctcttcatt atccgggctg atgcagccct ccatgaaccc 180
atgtacctct ttctggccat gttggcaacc attgacttgg ttctttcttc tacaacgctg 240
cccaaaatgc ttgccatatt ctggttcagg gatcaggaga tcaacttctt tgcctgtctg 300
gtccagatgt tcttccttca ctccttctcc atcatggagt cagcagtgct gctggccatg 360
gcctttgacc gctatgtggc catctgcaag ccattgcact acacgacggt cctgactggg 420
tccctcatca ccaagattgg catggctgct gtggcccggg ctgtgacact aatgactcca 480
ctccccttcc tgctcagacg cttccactac tgccgaggcc cagtgattgc ccattgctac 540
tgtgaacaca tggctgtggt aaggctggcg tgtggggaca ctagcttcaa caatatctat 600
ggcattgctg tggccatgtt tagtgtggtg ttggacctgc tctttgttat cctgtcttat 660
gtcttcatcc ttcaggcagt tctccagctt gcctctcagg aggcccgcta caaggcattt 720
gggacatgtg tgtctcacat aggtgccatc ctgtccacct acactccagt agtcatctct 780
tcagtcatgc accgtgtagc ccgccatgct gcccctcgtg tccacatact ccttgctatt 840
ttctatctcc ttttcccacc catggtcaat cctatcatat atggagtcaa gaccaagcag 900
attcgtgagt atgtgctcag tctattccag agaaagaaca tg 942

<210> 587
<211> 937
<212> DNA
<213> Unknown (H38g436 nucleotide)

<220>
<223> Synthetic construct

<400> 587
atgttaaaga aaaaccatac agccgtgact gagtttgttc tcctgggact gacagatcgg 60
gctgagctgc agtcccttct ttttgtggta tttctagtca tctaccttat cacagtaatc 120
ggcaatgtga gcatgatctt gttaatcaga agtgactcga cactacacac tccaatgtac 180
ttcttcctca gtcacctctc ctttgtagat ctctgttata ccaccaatgt tactcctcag 240
atgctggtta actttttatc caagagaaaa accatttcct tcatcggctg ctttatccaa 300
tttcactttt tcattgcact ggtgattaca gattattata tgctcacagt gatggcttat 360
gaccgctaca tggccatctg caagcccttg ttatatggaa gcaaaatgac caggtgtgtc 420
tgcctctgtc tcgctgctgc tccctatatt tatggctttg caaatggtct aagcacagac 480
caccctgatg cttcgtctgt ccttctgtgg acccaatgac atcaaccact tttactgtgc 540
ggacccaccc ctcttagtcc tcgcctgctc agatacttat gtcaaagaga ccgccatgtt 600
ggtggtggct ggttccaacc tcatttgctc tctcaccgtc atcctcattt cctacacttt 660
catcttcact gccattctgc gtatccacac tgctgagggg aggcgcaagg ccttctccac 720
ctgcgggtct catgtgaccg ctgtcactgt cttctatggg acactgttct gcatgtacct 780
gaggccccct tctgagacat ctatacaaca ggggaaaatt gtagctgttt tttatatctt 840
tgtgagtccg atgttaaacc cattgatcta cagcctgagg aataaagacg ttaaaagaag 900
tataaggaaa gttattcaaa agaaactgtt tgctaag 937

<210> 588
<211> 942
<212> DNA

<213> Unknown (H38g437 nucleotide)

<220>
<223> Synthetic construct

<400> 588
atgtcagcct ccaatatcac cttaacacat ccaactgcct tcttgttggt ggggattcca 60
ggcctggaac acctgcacat ctggatctcc atccctttct gcttagcata tacactggcc 120
ctgcttggaa actgcactct ccttctcatc atccaggctg atgcagccct ccatgaaccc 180
atgtacctct ttctggccat gttggcagcc atcgacctgg tcctttcctc ctcagcactg 240
cccaaaatgc ttgccatatt ctggttcagg gatcgggaga taaacttctt tgcctgtctg 300
gcccagatgt tcttccttca ctccttctcc atcatggagt cagcagtgct gctggccatg 360
gcctttgacc gctatgtggc tatctgcaag ccactgcact acaccaaggt cctgactggg 420
tccctcatca ccaagattgg catggctgct gtggcccggg ctgtgacact aatgactcca 480
ctcccccttcc tgctgagatg tttccactac tgccgaggcc cagtgatcgc tcactgctac 540
tgtgaacaca tggctgtggt gaggctggcg tgtggggaca ctagcttcaa caatatctat 600
ggcatcgctg tggccatgtt tattgtggtg ttggacctgc tccttgttat cctgtcttat 660
atctttattc ttcaggcagt tctactgctt gcctctcagg aggcccgcta caaggcattt 720
gggacatgtg tctctcatat aggtgccatc ttagccttct acacaactgt ggtcatctct 780
tcagtcatgc accgtgtagc ccgccatgct gcccctcatg tccacatcct ccttgccaat 840
ttctatctgc tcttcccacc catggtcaat cccataatct atggtgtcaa gaccaagcaa 900
atccgtgaga gcatcttggg agtattccca agaaaggata tg 942

<210> 589
<211> 936
<212> DNA
<213> Unknown (H38g438 nucleotide)

<220>
<223> Synthetic construct

<400> 589
atgtcagcct ccagtatcac ctcaacacat ccaacttcct tcttgttgat ggggattcca 60
ggcctggagc acctgcacat ctggatctcc atccccttct cagcatatac actggccctg 120
cttggaaact gcaccctcct tctcatcatc caggctgatg cagccctcca tgagcccata 180
tacctctttc tggccatgtt ggcagccatc gacctggtcc tttcctcctc agcattgccc 240
aaaatgcttg ccatattctg gttcagggat cgggagatca actttttgc ctgtctggtc 300
cagatgttct tccttcactc cttctccatc atggagtcag cagtgctgct ggccatggcc 360
tttgaccgct atgtggccat ctgcaagcca ctgcactaca ccacggtcct gactgggtcc 420
ctcatcacca agattggcat ggctgctgtg gcccgggctg tgacactaat gactccactc 480
cccttcctgc tgagatgttt ccactactgc cgaggcccag tgattgcccg ctgctactgt 540
gaacacatgg ctgtggtcag gctggctgtg ggaacactag cttcaacaat atctatggca 600
ttgctgtggc catgtttatt ggagtgttgg atctattctt tatcatccta tcttatatct 660
ttatccttca ggcagttcta caactctcct ctcaggaggc ccgctacaaa gcatttggga 720
catgtgtctc tcacataggt gccatcttag ccttctacac accttcagtc atctcttcag 780
tcatgcaccg tgtggcccgc tgtgctgcgc cacacgtcca cattctcctc gccaatttct 840
atctgctctt cccacccatg gtcaatccca tcatctacgg cgttaagacc aagcagatcc 900
gtgacagtct tgggagtatt cccgagaaag gatgtg 936

<210> 590
<211> 955
<212> DNA
<213> Unknown (H38g439 nucleotide)

<220>
<223> Synthetic construct

<400> 590
atgacaaccc acaactccac tggtagcagc cactcactct tcattctgct gagcattcct 60
ggcttagaag accagcacac atggatgtct ctccccttct ttatttccta ccttgttgct 120
ttccttggga acagcctcat catcttcatc atcatcactg aatgcagcct ccacgaaccc 180

atgtaccttt tcctctgcat gctggctgtg gctgacctta tcctgtctac taccactgtg 240
cccaaggccc tagccatatt ttggttctat gctggagcaa tatcccttgg tggctgtgtt 300
acccaaatct tctttatcca tgctaccttc atcgaggaat caggaattct gttggcgatg 360
gcacttgacc gctatgtggc catctgtgat ccactgcact ataccacagt gctcagtcgt 420
gcaaaaatca caaagattgg cttggctgtg gtcctgagaa gcttctgtgt gatcatgcca 480
gatgtgtttc tggtaaagcg gctgcctttc tgccatagca atctgctgcc acatacctac 540
tgtgagcaca tggctgttgc caagtttgct tgtgctgata ttcatgtcaa tgtttggtat 600
ggcttgtctg tccttctcta tactgtagtg ctagatgcct tgcttatctt agtgtcctaa 660
agcttcatcc tgtatacagg cttccacctc ccctccccaa ggagctcggc aaaaggctct 720
gggcacatgt ggctcccacc tcagagtcat ttccatgttc tacttgcctg gtattttac 780
cataattacc cagcggtttg ggcaccatgt tcctctccat acacacattc tgctgggtaa 840
tgtctgggtg ttggctcctc ccatgctgaa ccccatcatt tatgggatca acaccaggca 900
gattcaagag tgtgtgctca gtcttttgtc ctcacagagg aaatgatgct agatt 955

<210> 591
<211> 939
<212> DNA
<213> Unknown (H38g440 nucleotide)

<220>
<223> Synthetic construct

<400> 591
atgaattggg taaatgacag catcatacag gagtttattc tgctgggttt ctcagatcga 60
ccttggctgg agtttccact ccttgtggtc ttcttgattt cttacactgt gaccatcttt 120
ggcaatctga ccattattct agtgtcacgc ctggacacca aacttcatac ccccatgtat 180
ttttttctta ccaatctatc actcctggat ctttgttaca ccacatgtac agtcccacaa 240
atgctagtaa atttatgcag catcaggaaa gtaatcagtt atcgtggctg tgtagcccag 300
cttttcatat ttctggcctt gggggctact gaatatcttc tcctggccgt catgtccttt 360
gataggtttg tagctatttg tcggcctctc cattactcag ttatcatgca ccagagactc 420
tgcctccagt tggcagctgc atcctgggtt actggtttta gtaactcagt gtggttgtct 480
accctgactc tccagctgcc actctgtgac cctatgtga tagatcactt tctctgtgaa 540
gtccctgcac tgctcaagtt atcttgtgtt gagacaacag caaatgaggc tgaactattc 600
cttgtcagtg agctcttcca tctaataccc ctgacactca tccttatatc atatgctttt 660
attgtccgag cagtattgag gatacagtct gctgaaggtc gacaaaaagc atttgggaca 720
tgtggttccc atctaattgt ggtgtctctt ttttatagta cagccgtctc tgtgtacctg 780
caaccacctt cgcccagctc caaggaccaa ggaaagatgg tttctctctt ctatggaatc 840
attgcaccca tgctgaatcc ccttatatat acacttagga acaaggaggt aaaggaaggc 900
tttaaaaggt tggttgcaag agtcttctta atcaagaaa 939

<210> 592
<211> 997
<212> DNA
<213> Unknown (H38g441 nucleotide)

<220>
<223> Synthetic construct

<400> 592
atggaaaaat ccaatgtcag ctcagtgtat ggttttatct tggtgggttt ctctgatcgt 60
cccaagctgg agatggtgct ctttacagta aattttattc tgtattcagt ggctgtgctg 120
ggaaattcaa ccataatcct tgtgtgtata ttagactctc aacttcatac cccaatgtac 180
ttctttctgg caaatctttc ctttctagat ctctgcttca gtactagttg catcccacaa 240
atgctggtaa acctctgggg ccctgacaag actattagct gtgctggctg tgttgtccag 300
cttttctctt tcctttctgt caggggaatt gagtgcatcc ttctggctgt catggcctat 360
gacagctatg ctgcagtctg caaaccgttg cgctatctgg tcattatgca cctccagctg 420
tgtctaggac tgatggctgc agcctggggg agtggactgg tcaatgccgt tgtcatgtca 480
ccactaacaa tgaccctctc cagaagtggc cgccgccgag ttaaccattt cctctgtgaa 540
agccagcact gatcaagatg gcttgtttgg atgttcgtgc agtggaaatg ctggcttttg 600
cttttgccgt tctcattgtc ctactgcccc tcactcttat tcttgtctcc tacggctaca 660
ttgctgcagc tgtgctaagc atcaagtcag ctgccaggca atggaaggcc ttccatacct 720

gtagctctca cctcacagtg gtctccctgt tttatgggag catcatctat atgtatatgc 780
agccaggaaa cagttcttcc caagaccaag gcaagtttct cactctcttc tacaacctgg 840
tgactcctat gttgaatctg ctcatctata ctttaaggaa taaggaggtg aaaggagcac 900
tgaagaaggt tttggggagg caataatgaa ctggagaaat atgataagtt gtgaagtctt 960
aggcaaaata tcttttccaa atacatttat tttgtgc 997

<210> 593
<211> 950
<212> DNA
<213> Unknown (H38g442 nucleotide)

<220>
<223> Synthetic construct

<400> 593
caagtagttc atacaggctt ttctccctag ctatacgtct tcaccctgct gggaaatggg 60
gcatcctggg gctcatctgg ctggactcca gactgcacac ccccatgtac ttctttctct 120
cacacctggc catcattgat atttcgtatg cttccaacaa tgtccccaag atgctgacaa 180
accttggctt gaacaagaga aaaacaatct cctttgtccc atgcacaatg cagacctttt 240
tatacatggc ttttgctcac actgagtgtc tcatcttggt aatgatgtcc tacgatcggt 300
acatggctgt ctgccacccct ctgcaatatt ctgtcatcat gagatgggga gtgtgcacag 360
tcctggctgt cacttcttgg gcatgtggtt ccttctggcc ctggtccatg tggttctcat 420
cctgaggctg cccttctgtg ggccccatga aatcaaccac ttcttctgtg aaatcctgtc 480
tgtcctcaag ttggcctgtg ctgacacctg gctcaaccag gtggtcatct ttgcttcttc 540
agtgttcatc ctggtggggg cgctctgcct ggtgctggtc tcctactcgc gcatcctggc 600
ggccatcttg aggaatcagt ctggggaggg gcgcagaaag ggcttctcca cctgctactc 660
ccacctttgc atggtgggac tcttctttgg cagcgccatt gtcacgtaca tggcccccaa 720
gtcccgccat cctgaggagc agcagaaagt tctttccctg ttttacagcc ttttcaatcc 780
aatgctgaac ccccctgata tatagcctaa ggaatgcaga ggtcaagggc gccctgagga 840
gtgcactgag gaaggagagg ctgacgtgag acatctcaaa gggaaccatg gggagggagc 900
cttgctccct gcaaaatata gaagttggct ttttttttg tcttctgcta 950

<210> 594
<211> 711
<212> DNA
<213> Unknown (H38g443 nucleotide)

<220>
<223> Synthetic construct

<400> 594
cagatgctga cagattggtg gggacctaat aggaccacaa gttacgtgaa ctcaccattc 60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt 120
atatgccatc ctttgtaata tttgttaatc atgaacctat atctcctcct taatcttact 180
ttaatacttg agtgataatt cattcatttt tgtcatcatg tatactctca tcctaaaatt 240
cccaaggtat gaaaaaaaaa aaccttcagg ataattccct ccatgtgttg ctagctatgc 300
tgaaaacagt ttttctagat gctacaattg aagaaatgtc tgtatttgtg ttaatacaat 360
gtaaatgtcc taatatgcct tatcagtaat tttacctgct atggctacat tgaggtgcac 420
taagaatgaa tactagtaat taaattagaa gcaagctgag aaatcagtat catcatcatc 480
atcataggtg tcatttcatt atagattcaa tcttctatgg aatcattgtg taaatgctct 540
tgaagatggt aacaactcct cccaagacca agaaatgatt ctttatcttg ttttacacta 600
tactaactcc aagtctcaaa cttctagttt atctgttaag aataaagata taaaggatat 660
ttcaaggaga atactaagat tggcagggaa tcttcaaaaa tgaaaggaaa c 711

<210> 595
<211> 765
<212> DNA
<213> Unknown (H38g444 nucleotide)

<220>
<223> Synthetic construct

<400> 595
atgtatttcc tactgagtca gctctccctc attgacctaa attacatctc caccattgtt 60
cctaagatgg catctgattt tctgcatgga aacaagtcta tctccttcac tgggtgtggg 120
attcatagtt tcttcttcac gactttagcc gttgtagaag cgctactcct gatatcaatg 180
gcctatgttc gttgcattgc tatttgcttt cctctccact atctcatgcg catgagcaaa 240
agagtgtgtg tgctgatgat aacaggatct tggatcatag gctcgatcaa tgcttgtgct 300
cacactgtat atatactcca tattccttat tgcccatcta gggttatcaa tcatttcttc 360
tgtgatgtcc cagcaatggt gactctggcc tgcatggaca cctgggtcta tgagggcaca 420
gtgcttttga gcgccaccat ctttctcgtg tttcccttca ttgctatttc atgttcctat 480
ggacgggttc tccttgctgt ctaccacatg aaatctgcag aagggaagaa gaaggcctac 540
ctgacctgca gcacccacct cactgtagtg actttctact atgcaccctt tgcttacacc 600
tatctacgcc caagatccct gcgatctccg acagaggaca aggttctggc tgtcttctac 660
accatcctca ctccaatgct caaccccatc atctacagcc tgagaaacaa ggaggtgatg 720
gggggccctga cacgagtgat tcagaaaatc ttttcagtga aaata 765

<210> 596
<211> 960
<212> DNA
<213> Unknown (H38g445 nucleotide)

<220>
<223> Synthetic construct

<400> 596
ctgtcatgac caaccagagc tgcccagaaa cagttcatct tactgggttt ctcaggcaga 60
cccaggctgg agcatgtcct ctttgtgttt gtcctcatct tctaccttgt gaccttagtg 120
ggcaacatca tcattatctt gatctcccac ctggacccct gcctccacat gcccatgtac 180
ttcttcctca ctaacttgtc tttcctagat ctctgcttca ccaccagttc tatcccccag 240
ctgcttttca atctaggcag cccaggcaag actatcagcc acacgggctg tgccatccag 300
ctcttcatgt tcctgggcct gggtggcaag agtgtattct cttggcagcc gtggcctatg 360
accgcttcat tgcaatctgc aagccccttc actattctgt cattatgcac cctcagctgt 420
gctggaagtt ggtgtctgtg gcccgggggt gttggactcc tcagttctct agttatgtct 480
cctgtgacta tgaagctgcc acgatgtgga agatgtaagt tgaaacattt cctgtgtgag 540
atgccagctc taataaaaat cacctgtgtg gacacagtgg ctatggagag cactgttttc 600
accttatcgg tagtaattgt cctgatgcct ttgtgtctta tcctcatctc ttatagctac 660
attgccctag cagtgctgag aatcaagtca gccgcaggaa gaaggaaggc cttcaatatg 720
tgcgggtccc acctcaccgt ggtctccttg ttttatggga atattatcta tatgtatatg 780
caaccatgaa ataattcttc tcaggaccaa gggaagttcc ttaccctttt ctacaactta 840
atgacccca tgttaaaccc tgtcatctat acactgagaa acaaggatgt aaaaggtgca 900
ctgaagaggc ttgtgtctag aaaacacagt gacagtgact gctcttgaga ctgcttcttt 960

<210> 597
<211> 377
<212> DNA
<213> Unknown (H38g446 nucleotide)

<220>
<223> Synthetic construct

<400> 597
atggaaaatt acaatcaaac atcaactgct ttcatcttgt tgggattgtc gccaccacca 60
aaaattggcc atttcatctt cattctcatt aatttcgttt tcctaatggc tctaattgga 120
aacctatcca tgattcttct catcttcttg gacatccatc tccacacacc catgtatttc 180
ctacttagtc agctctccct cattgaccta aattatattt ccaccattgt tcctaagatg 240
gtttatgatt tttcatgtat ggaaacaagt ctatctcctt cactgggtgt gggattcaga 300
gtttcttctt cctgacttta gcaggtgcag aagcgctgct cctgacatca atggcctatg 360
atcgttatgt ggctatt 377

<210> 598
<211> 979

<212> DNA
<213> Unknown (H38g447 nucleotide)

<220>
<223> Synthetic construct

<400> 598
atggaaagag ctaacgacag caccttctct ggattcatcc tcctgggctt ctccaacagg 60
cctcagctgg aaacagctct ctttgtggtc atcttgatca tctactttct gagctttctg 120
ggcaatggca ccattatact tttatccatt gtagatcctc gcctccatac ccctatgtat 180
ttcttcctct ccaatctctc ttttatggat ctttgtttga ccacttgtac tgtccctcag 240
acactggtca actttaaggg gaaggacaag accatcacct atggtggctg cgtgacccag 300
ctattcattg ccttgggact cggggggagt ggagtgtgtc ttattgtctg ccatggccta 360
tgaccgctat gcagccgtct gccgccccact ccactacatg gtgagcatgc atccccaact 420
ttgcttgcag ttggttgtaa ccacttggct cacagggttt ggcaattctg tgatacagac 480
agcattgacc atgactctcc ccctctgtga taaaaaccaa gtggatcatt tcttctgtga 540
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cattactcat gcagtcctga agataaagtc agctcaaggg aggcagaagg cttttggaac 720
ctgtggttct cacctcctgg tagtgatcat tttctttggg acactcatct ccatgtacct 780
ccagcctccc tccagttatt cacaggatgt gaacaaaagc attgcactct tctatactct 840
ggtgactcct ctactgaatc ccctaattta cactctgagg aacaaggaag tcaaaggggc 900
aactaagaag actagtgggg aggaccatag atgcatgaga aagttaacgc agggtttgca 960
gttccaaaca tttgtgcac 979

<210> 599
<211> 936
<212> DNA
<213> Unknown (H38g448 nucleotide)

<220>
<223> Synthetic construct

<400> 599
atggaaaatt acaatcaaac atcaactgat ttcatcttat tggggctgtt tccaccatca 60
ataattgacc ttttcttctt cattctcatt gttttcattt tcctgatggc tctaattgga 120
aacctgtcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180
ctactgagtc agctctccct cattgaccta aattacatct ccaccattgt tcctaagatg 240
gcatctgatt ttctgcatgg aaacaagtct atctccttca ctgggtgtgg gattcagagt 300
ttcttcttct tggcattagg aggtgcagaa gcactacttt tggcatctat ggcctatgat 360
cgttacattg ctatttgctt tcctctccac tatctcatcc gcatgagcaa aagagtgtgt 420
gtgctgatga taacagggtc ttggatcata ggctcgatca atgcttgtgc tcacactgta 480
tatgtactcc atattcctta ttgccgatcc agggccatca atcatttctt ctgtgatgtc 540
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agtgccacca tctttctcgt gtttcccttc attggtattt catgttccta tggccaggtt 660
ctctttgctg tctaccacat gaaatctgca gaagggagga agaaagccta tttgacctgc 720
agcacccacc tcactgtagt aactttctac tatgcacctt ttgtctacac ttatctacgt 780
ccaagatccc tgcgatctcc aacagaggac aaggttctgg ctgtcttcta caccatcctc 840
accccaatgc tcaaccccat catctatagc ctgaggaaca aggaggtgat gggggccctg 900
acacgagtga gtcagagaat ctgctctgtg aaaatg 936

<210> 600
<211> 936
<212> DNA
<213> Unknown (H38g449 nucleotide)

<220>
<223> Synthetic construct

<400> 600
atgcccaatt caaccaccgt gatggaattt ctcctcatga ggttttctga tgtgtggaca 60

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ctacagattt tacattctgc atccttcttt atgttgtatt tggtaactct aatgggaaac     120
atcctcattg tgaccgtcac cacctgtgac agcagccttc acatgcccat gtacttcttc     180
ctcaggaatc tgtctatctt ggatgcctgc tacatttctg ttacagtccc tacctcatgt     240
gtcaattccc tactggacag caccaccatt tctaaggcgg gatgtgtagc tcaggtcttc     300
ctcgtggttt tttttgtata tgtggagctt ctgtttctca ccattatggc tcatgaccgc     360
tatgtggctg tctgccagcc acttcactac cctgtgatcg tgaactctcg aatctgcatc     420
cagatgacac tggcctccct actcagtggt cttgtctatg caggcatgca cactggcagc     480
acattccagc tgcccttctg tcggtccaac gttattcatc aattcttctg tgacatcccc     540
tctctgctga agctctcttg ctctgacacc ttcagcaatg aggtcatgat tgttgtctct     600
gctctggggg taggtggcgg ctgtttcatc tttatcatca ggtcttacat tcacatcttt     660
tcgaccgtgc tcgggtttcc aagaggagca gacagaacaa aggccttttc cacctgcatc     720
cctcacatcc tggtggtgtc agtcttcctc agttcatgct cttctgtgta cctcaggcca     780
cctgcgatac ctgcagccac ccaggatctg atcctttctg gtttttattc cataatgcct     840
cccctcttta accctattat ttacagtctt agaaataagc aaataaaggt ggccatcaag     900
aaaatcatga agagaatttt ttattcagaa aatgtg                               936
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<210> 601
<211> 931
<212> DNA
<213> Unknown (H38g450 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(931)
<223> n = A,T,C or G

<400> 601
aggaatgccc cactggaaaa atacaatcaa acatcaactg atttcatctt attggggatc      60
ttcccaccat ccagaattgg ctttctcctc ttcattctcc ttgttctcat tttgctattg     120
gctttaattg gcaatcagtc cgtgatcctt ctcatcttct tggacactca tctccacacg     180
cccatttatt tcttacttag tcggctctac ctcattgacc taaattacat ctccactatt     240
gtccccagat gtttctgat tttctgtttg gaaacaagtc tatttccttc attgggtgtg      300
gaattcagag tttcttcttt gtgactttag caggtgcaga aatgctgcca ctgacatcaa     360
tggcctgtga tcattatgta gctgtttgct ttcctctcca ctatcccatc catatgagca     420
agatagtatg tgctgatgat aataggatct tggataatgg gctctatcga cacttgtgct     480
cacatttcat atatgcccca tatccctgtt gctcagccag ggctgtgatg tcccagccat     540
ggtgactctg gccttcgtgg acacctgggt ctatgagtgc acagtgtttt tgagcacaac     600
cctctttctc atgtttacct ttattggtat tgcatgttcc tatggtgagg ttctccttac     660
tgtctaccac attaaatctg cagaagggag gaagaaggcc tattcgacct gtagcaccca     720
cctcactgta gtaattntct actatgcaat gtttgcttat acctatctat atccaagata     780
cctgcaatct ccaacagagg acaaggttct ggctgtgttc tacaccatcc tcacctcaat     840
gctcaacccc atcatctaca gcctgagaaa cagggaggtg atgggggccc tgacacgagt     900
gagtcagaga atcttccctg tgaagatgaa g                                    931

<210> 602
<211> 577
<212> DNA
<213> Unknown (H38g451 nucleotide)

<220>
<223> Synthetic construct

<400> 602
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gaggatccag aactgcagcc tgtcctcgct ttgctgtccc tgtccctgtc cctgtccttg     120
tatctggtca tggttctgag gaacctgctc agcatcctgg ctgtcagctc tgactccccc     180
ctccataccc ccatgtactt cttcctctcc aacctgtgct gggctgacat cgggttcact     240
tcggccacgg ttcccaaggt gactgtggac atgcagtcgc atagcagagt catctctcat     300
gcgggctgcc tgacacagat gtctttcttg gtcctttttt gcatgtatag aatgcatgct     360
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cctgactgtg atggcctatg acggctttgt agccatctgt ctccctctgc actacccagt 420
catcatgaat cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttagcctgtt 480
ggattcccag ctgcacggtt ggattgtgtg acaattcacc atcatgaaga atgtggaaat 540
ctctcatttt gtaagtgacc cctctcaact tctcaac 577

<210> 603
<211> 952
<212> DNA
<213> Unknown (H38g452 nucleotide)

<220>
<223> Synthetic construct

<400> 603
atggacagaa gaaaccagac ctgcatctat gaatttcttc tcatgggctt ctctgaacac 60
caggagcagc aggctctttt gtttgggctt ttcctggtca tgtacttggt cactgtgttg 120
gagaacctgc taatcatcct ggccattggc tctgacctgc acctccacac cccccatgta 180
cctcttcctg tccaacctgt ccttttttgga tattggcttt atctctacaa taattcccaa 240
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ccttgaccgc tatgtggcca tcagccatcc tctccattat gccctaacca tgaactccca 420
acgctgtgtc ctgttggtgg ctgtgtcatg ggtgatcact attttacatg ccctagtgca 480
taccctccta gtgaccaggc tttccttctg tggtccaaat attatccctc acttcttctg 540
tgatctggtc ccactcctga agctggcctg ctccagtact tgtgtcaatg atctggtgct 600
catccttgtg gcaggaacac tgctgattgc gcccctttgtc tgcatcctta tgtcctactt 660
ttacattgca ttggccatcc tgagaattga ttccccaagg ggtaagcaaa gggccttctc 720
cagctgcact tcccacctct ctgtagtctc tctgttctat agcacagcta tcggtgtcta 780
tttatgtcct ccatcatccc actcagatgg aaaggacaga gtcttctcag tcatgtacac 840
ggtggtgact cccatgttga acccccttcat ctacagcctg aggaacaggg atatgaaggg 900
ggcactggga aaactgcttg gaataaaaac atcctaacac ccttactcaa ga 952

<210> 604
<211> 754
<212> DNA
<213> Unknown (H38g453 nucleotide)

<220>
<223> Synthetic construct

<400> 604
catttgtagt ggtgcgtgtt cagatacctg ggtattgtgg tggagataca catagtcttt 60
tgaacattcc gttgtaggtc gctggtagct ggatatgtcc tttaaacttt tgtggcaatt 120
catttgagaa gaaacgcagc tttttctatt gagttcttat gctataagta aaggatgcaa 180
gacattaatt agacaaaata aggtaaaatt ttgtattcgc ttagagagtt taagaggcta 240
ttagccacta gtctctatag tgcctaagta aatcgattct gcttaataaa ctgctacctg 300
gcttagtaag taaacaaatt gaaacttatt ttaggaaaga aatatatatt cttatatcta 360
catcagattc tcttatgtag aaacactaga gggtgaatga ggagttaatg taagcagcat 420
catatttttg ctcattcctt tctctatgat ttctgcttct tctgtccaaa ttctgtgagg 480
tgtcctctag atgaaattat cacaggcatg gaaaaggtca ttttccactt ggtccatcct 540
catgattgca gttgtaacat actgggactc attcattttc acatatgtat atgagactta 600
aatcatccac atttcaggcc aggttaagtt tctagaaata ttctatgctt tccttgcact 660
tacactcaat cctgtcgtct acagcgttgg cactgacagt gttctggtgg caatgaaaaa 720
tatgctctag agcaacattc tacataaaaa aaag 754

<210> 605
<211> 939
<212> DNA
<213> Unknown (H38g454 nucleotide)

<220>
<223> Synthetic construct

<400> 605
atggaccaga tcaaccacac taatgtgaag gagtttttct tcctggaact tacacgttcc 60
cgagagctgg agtttttctt gtttgtggtc ttctttgctg tgtatgtagc aacagtcctg 120
ggaaatgcac tcattgtggt cactattacc tgtgagtccc gcctacacac tcctatgtac 180
tttctcctgc ggaacaaatc agtcctggac atcgtttttt catctatcac cgtccccaag 240
ttcctggtgg atcttttatc agacaggaaa accatctcct acaatgactg catggcacag 300
atctttttct tccactttgc tggtggggca gatatttttt tcctctctgt gatggcctat 360
gacagatacc ttgcaatcgc caagcccctg cactatgtga ccatgatgag gaaagaggtg 420
tgggtggcct tggtggtggc ttcttgggtg agtggtggtt tgcattcaat catccaggta 480
attctgatgc ttccattccc cttctgtggc cccaacacac tggatgcctt ctactgttat 540
gtgctccagg tggtaaaact ggcctgcact gacacctttg ctttggagct tttcatgatc 600
tctaacaacg gactggtgac cctgctctgg ttcctcctgc tcctgggctc ctacactgtc 660
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acgtccccaca tgctggtggt gactcttcac ttcgtgcctt gtgtttacat ctactgccgg 780
ccccttcatga cgctgcccat ggacacaacc atatccatta ataacacggt cattaccccc 840
atgctgaacc ccatcatcta ttccctgaga aatcaagaga tgaagtcagc catgcagagg 900
ctgcagagga gacttgggcc ttccgagagc agaaaatgg 939

<210> 606
<211> 927
<212> DNA
<213> Unknown (H38g455 nucleotide)

<220>
<223> Synthetic construct

<400> 606
atggaaagaa tcaaccacac cagcagtgtc tccgagttta tcctcctggg actctcctcc 60
cggcctgagg accaaaagac actctttgtt ctcttcctca tcgtgtacct ggtcaccata 120
acagggaacc tgctcatcat cctggccatt cgcttcaacc cccatcttca gacccctatg 180
tatttcttct tgagttttct gtctctcact gatatttgct ttacaacaag cgttgtcccc 240
aagatgctga tgaacttcct gtcagaaaag aagaccatct cctatgctgg gtgtctgaca 300
cagatgtatt ttctctatgc cttgggcaac agtgacagct gccttctggc agtcatggcc 360
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cactgtgtcc tgctggtggc cttctcctgc tcatttcctc acctccactc actcctgcac 480
acacttctgc tgaatcgtct caccttctgt gactccaatg ttatccacca ctttctctgt 540
gacctcagcc ctgtgctgaa attgtcctgc tcttccatat ttgtcaatga aattgtgcag 600
atgacagaag cacctattgt tttggtgact cgttttctct gcattgcttt ctcttatata 660
cgaatcctca ctacagttct caagattccc tctacttctg ggaaacgcaa agccttctcc 720
acctgtggtt tttacctcac cgtggtgacg ctcttttatg gaagcatctt ctgtgtctat 780
ttacagcccc catccaccta cgctgtcaag gaccacgtgg caacaattgt ttacacagtt 840
ttgtcatcca tgctcaatcc ttttatctac agcctgagaa acaaagacct gaaacagggc 900
ctgaggaagc ttatgagcaa gagatcc 927

<210> 607
<211> 939
<212> DNA
<213> Unknown (H38g456 nucleotide)

<220>
<223> Synthetic construct

<400> 607
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cttctcatca ttactctcat taccctggac gtaaagctcc aaacacccat gtacttcttc 180
ctgaagaact tatccttttt ggatgtcttc ctggtgtctg ttccaatccc aaaattcatt 240
gtcaacaacc taacccacaa caattccatt tccattctag gatgtgcctt ccagctactt 300
ttaatgactt ccttctcagc aggagagata tttatcctca ctgccatgtc ctatgaccgc 360
tatgtagcca tctgctgtcc cctgaactac gaggtaatca tgaatactgg agtctgtgtg 420

ttaatggcaa gtgtttcctg ggccattgga gggctctttg gtactgcgta cacagctggc 480
acattttcca tgcctttctg tggctccagt gtgattccac agtttttctg tgatgttcct 540
tcattactaa ggatttcctg ttctgaaaca ctaatggtaa tttatgcagg tattggagtt 600
ggtgcatgtt taagcatttc ttgtttcatc tgtattgtga tctcttacat ttatatcttc 660
tccactgtac tgaagatccc taccactaaa ggtcagtcca aagctttttc cacatgcttc 720
ccccatctca ctgttttcac tgtttttatc ataactgctt attttgttta tcttaagcca 780
ccttcaaatt caccatctgt tattgacagg ctgctttctg tgatctacac tgtgatgcct 840
ccagtattta accctgtaac ctacagcctg cggaacaatg acatgaaatg tgctctgata 900
aggttgctgc agaaaacata tggtcaggag gcttacttc 939

<210> 608
<211> 972
<212> DNA
<213> Unknown (H38g457 nucleotide)

<220>
<223> Synthetic construct

<400> 608
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catcctcaaa tgaagatttt ccttttcatg ttatttctgg ggctctacct cctgacgttg 120
gcctggaact taagcctcat tgccctcatt aagatggact ctcacctgca catgcccatg 180
tacttcttcc tcagtaacct gtccttcctg gacatctgct atgtgtcctc caccgcccct 240
aagatgctgt ctgacatcat cacagagcag aaaaccattt cctttgttgg ctgtgccact 300
cagtactttg tcttctgtgg gatggggctg actgaatgct ttctcctggc agctatggcc 360
tatgaccggt atgctgcaat ctgcaacccc ttgctttaca cagtcctcat atcccataca 420
ctttgtttaa agatggtggt tggcgcctat gtgggtggat tccttagttc tttcattgaa 480
acatactctg tctatcagca tgatttctgt gggccctata tgatcaacca ctttttctgt 540
gacctccctc cagtcctggc tctgtcctgc tctgatacct tcaccagcga ggtggtgacc 600
ttcatagtca gtgttgtcgt tggaatagtg tctgtgctag tggtcctcat ctcttatggt 660
tacattgttg ctgctgttgt gaagatcagc tcagctacag gtaggacaaa ggccttcagc 720
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atgcgaccca gttccagcta ctccctaaac agggacaagg tggtgtccat attctatgcc 840
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gccatgagga aagccatgga aagggacccc gggatttctc acggtggacc attcattttt 960
atgaccttgg gc 972

<210> 609
<211> 942
<212> DNA
<213> Unknown (H38g458 nucleotide)

<220>
<223> Synthetic construct

<400> 609
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ctcctgaggc tgcatgcttt gctcttctca ctgatctacc tcacggctgt gctgatgaat 120
ttagtcatca ttctcctcat gattctggac catcgtctcc acatggcaat gtactttttc 180
ctccgacatt tgtccttctt agacctgtgt ctcatttctg ccacagtccc caaatccatc 240
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tatgctgcca tctgctgccc cctacactgt gaggctgtca tgagcagagg gctctgtgtc 420
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gccctactaa agctcacttg ttctaaagaa catgccatca ttagtgtcag tgtggccatt 600
ggggtctgtt atgcattttc atgtttagtt tgcattgtag tttcctatgt gtacattttc 660
tctgctgtgt taaggatatc acagagacag agacaatcca aagccttttc caactgtgtg 720
cctcacctca ttgttgtcac tgtgtttctt gtaacaggtg ctgttgctta tttaaagcca 780
gggtctgatg caccttctat tctagacttg ctggtgtctg tgttctattc tgtcgcacct 840
ccaaccttga accctgttat ctactgtctg aagaacaagg acattaaatc cgctctgagt 900

aaagtcctgt ggaatgttag aagcagtggg gtaatgaaaa ga 942

<210> 610
<211> 921
<212> DNA
<213> Unknown (H38g459 nucleotide)

<220>
<223> Synthetic construct

<400> 610
atgaatcaca gcgttgtaac tgagttcatt attctgggcc tcaccaaaaa gcctgaactc 60
cagggaatta tcttcctctt ttttctcatt gtctatcttg tggcttttct cggcaacatg 120
ctcatcatca ttgccaaaat ctataacaac accttgcata cgcccatgta tgttttcctt 180
ctgacactgg ctgttgtgga catcatctgc acaacaagca tcataccgaa gatgctgggg 240
accatgctaa catcagaaaa taccatttca tatgcaggct gcatgtccca gctcttcttg 300
ttcacatggt ctctgggagc tgagatggtt ctcttcacca ccatggccta tgaccgctat 360
gtggccattt gtttccctct tcattacagt actgttatga accaccatat gtgtgtagcc 420
ttgctcagca tggtcatggc tattgcagtc accaattcct gggtgcacac agctcttatc 480
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attaccctgg ccatagggga ctttattctt acctgcatct cctatggttt tatcattgtt 660
gctattctcc gtatccgcac agtagaaggc aagaggaagg ccttctcaac atgctcatct 720
catctcacag tggtgaccct ttactattct cctgtaatct acacctatat ccgccctgct 780
tccagctata catttgaaag agacaaggtg gtagctgcac tctatactct tgtgactccc 840
acattaaacc cgatggtgta cagcttccag aatagggaga tgcaggcagg aattaggaag 900
gtgtttgcat ttctgaaaca c 921

<210> 611
<211> 810
<212> DNA
<213> Unknown (H38g460 nucleotide)

<220>
<223> Synthetic construct

<400> 611
atggaagtga gtgggaacca cacctctgtg gccatgtttg ttctcctagg actctcagat 60
gaaaaagagc tgcagctcat cctctttcca gtcttcctgg tgatctacct tgtgaccctg 120
atttggaaca tgggtcttat catcctcatc agaatagact ctcatctgaa cacacccatg 180
tactttttc tcagtttcct ctcatttaca gacatctgct attcttctac catcagccca 240
aggatgcttt cagacttctt aaaagataag aagacaattt ccttccttgc ctgtgccact 300
cagtattttc ttggggcctg gatgagtctg gctgagtgct gcctcttggt catcatggcc 360
tgtgacagat atgtggccat tggcagcccc ctgcagtact cagcaatcat ggtccctagt 420
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acagtccctt gctttaatct ctactactgt gggccaaata tcattcaaca tttcttctgt 540
aacacacttc agattatttc cttgtcttgc tccaacccct ttatcagcca aatgattctt 600
tttctggaag ctatttttgt tgggttgggc tctttgcttg ttatcctttt gtcttatggt 660
ttcattgtag cttccatact gaaaatatca tcaaccaaat gttgtgccaa ggccttcaat 720
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atgcatccta gctctagcca ctccatgaag 810

<210> 612
<211> 988
<212> DNA
<213> Unknown (H38g461 nucleotide)

<220>
<223> Synthetic construct

<400> 612

tactccaaag aaattataga ataatgtact tccaatgata ttataaaatg tggttagcat 60
aataagatta cttttttac tgtttatcct tttagagttc acagaagatt tggggttaca 120
gcaagtgctc tttttcatct ttctcatcat ttatgtcatc agcctctcag gcaacatcat 180
tctgaattct ctcatctgtg ctgattcttg gccctacaca cccatgtatt tcttcactgg 240
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ttgcatttct gatgacaaaa ccatctcctt tcctggctgc cttgctcagt tcttctctgc 360
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aatctccaag cccctgcttt attcccgggc cacattccca gagttatgtg ccagtcttgt 480
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gaagatccgt tccattaagg gccgcctcca ggtcttctcc acttgtgggt ctcccctgac 780
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ccccttgatc tatagcttaa gaaataagga tgtcaaagat gccttgaaga aaatgttaga 960
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<210> 613
<211> 1049
<212> DNA
<213> Unknown (H38g462 nucleotide)

<220>
<223> Synthetic construct

<400> 613
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gcccgtttcc cctggcttct ttgccctcat tctcctggtc tttgtgacct ccatagccag 120
caacgtggtc aagatcattc tcatccacat agactcccgc ctccacaccc ccatgtactt 180
cctgctcagc cagctctccc tcagggacat cttgtatatt tccaccattg tgcccaaaat 240
gctggtcgac caggtgatga gccagagagc catttccttt gcaggatgca ctgcccaaca 300
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catatgctgc tagagacttg aaatgaagga tacaagactt tatcattgcc cttgagttta 1020
aatattctct gcctggaaac aagtgaccc 1049

<210> 614
<211> 957
<212> DNA
<213> Unknown (H38g463 nucleotide)

<220>
<223> Synthetic construct

<400> 614
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tccaatgagc actaccttct ttttgtggcc cttgccatta tctgtcaggt gttcttggtg 120
cgaagtggag acattctctt ggccattggg actgtgatta agttgcacac tactcatgta 180
ttattttttg gcaaatgtgt ccatcttaga catattgtgt tcatcagcta ctatacctaa 240
gatgcctaag attctctaga ctgaggatca cagcatttct tttgttaggt gagctttgca 300
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tgtctaccct ctgcctgtct ttctgcaagc ctgatcgagt taaccagtat tactgtgata 540
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<210> 615
<211> 840
<212> DNA
<213> Unknown (H38g464 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(840)
<223> n = A,T,C or G

<400> 615
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gtcatcatga gggaagagct ctgtgtcttc ttagtggctg tatcttggat tctgtcttgt 360
gccagctccc tctctcacac ccttctcctg acccggctgt ctttctgtgc tgcgaacacc 420
atcccccatg tcttctgtga ccttgctgcc ctgctcaagc tgtcctgctc agatatcttc 480
ctcaatgagc tggtcatgtt cacagtaggg gtggtggtca ttaccctgcc attcatgtgt 540
atcctggtat catatggcta cattggggcc accatcctga gggtcccttc aaccaaaggg 600
atccacaaag cattgtccac atgtggctcc catctctctg tggtgtctct ctattatggg 660
tcaatatttg gccagtacct tttcccgact gtaagcagtt ctattgacaa ggatgtcatt 720
gtggctctca tgtacacggt ggtcacaccc atgttgaacc cctttatcta cngcattngg 780
aacagggaca tgaaagaggc ccttgggaaa ctcttcagta gagcaacatt tttctcttgg 840

<210> 616
<211> 909
<212> DNA
<213> Unknown (H38g465 nucleotide)

<220>
<223> Synthetic construct

<400> 616
atgaattcat caagtgactg aagacaacca gtgatggacg gggtgaatga tagctccttg 60
cagggctttg ttctgatggg catatcagac catccccagc tggagatgat ctttttttata 120
gccatcctct tctcctattt gctgacccta cttgggaact caaccatcat cttgctttcc 180
cgcctggagg cccggctcca tacacccatg tacttcttcc tcagcaacct ctcctccttg 240
gaccttgctt tcgctactag ttcagtcccc caaatgctga tcaatttatg gggaccaggc 300
aagaccatca gctatggtgg ctgcataacc cagctctatg tcttcctttg gctgggggcc 360
accgagtgca tcctgctggt ggtgatggca tttgaccgct acgtggcagt gtgccggccc 420
ctccgctaca ccgccatcat gaacccccag ctctgctggc tgctggctgt gattgcctgc 480
ctgggtggct tgggcaactc tgtgatccag tcaacattca ctctgcagct cccattgtgt 540
gggcaccgga gggtggaggg attcctctgc gaggtgcctg ccatgatcaa actggcctgt 600
ggcgacacaa gtctcaacca ggctgtgctc aatggtgtct gcaccttctt cactgcagtc 660
ccactaagca tcatcgtgat ctcctactgc ctcattgctc aggcagtgct gaaaatccgc 720
tctgcagagg ggaggcgaaa ggcgttcaat acgtgcctct cccatctgct ggtggtgttc 780

ctcttctatg gctcagccag ctatgggtat ctgcttccgg ccaagaacag caaacaggac 840
cagggcaagt tcatttccct gttctactcg ttggtcacac ccatggtgaa tcccctcatc 900
tacacgctg 909

<210> 617
<211> 926
<212> DNA
<213> Unknown (H38g466 nucleotide)

<220>
<223> Synthetic construct

<400> 617
atgcagagga gcaatcacac agtgactgag ttcatcctgc tgggcttcac cacagatcca 60
gggatgcaac tgggcctctt tgtggtgttc ctgggtgtgt actgtctgac tgtggtagga 120
agtagcaccc tcatcgtgtt gatctgtaat gactcccacc tacacacacc catgtatttt 180
gtcattggaa atctgtcatt tctggatctc tggtattctt ctgtctacac cccaaagatc 240
ctagtgacct gcatctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc 300
ttctctgcca ggctggccta tagtgagtgc tacctactgg ctgccatggc ttatgaccac 360
tacgtggcca tctccaagcc cctgctttat gctcagacca tgccaaggag attgtgcatc 420
tgtttggttt tatattccta tactgggggt tttgtcaatg caataatatt aaccagcaac 480
acattcacat tggatttttg tggtgacaat gtcattgatg actttttctg tgatgtccca 540
cccctcgtga agctggcatg cagtgtgaga gctaccaggc tgtgctgcac ttccttctgg 600
cctccaatgt catctcccct actgtgctca tccttgcctc ttacctctcc atcatcacca 660
ccatcctgag gatccactct acccagggcc gcatcaaagt cttctccaca tgctcctccc 720
acctgatctc cgttacctta tactatggct ccattctcta caactactcc cggccaagtt 780
ccagctactc cctcaagagg gacaaaatgg tttctacctt ttatactatg ctgttcccca 840
tgttgaatcc catgatctac agtctgagga ataaagacat gaaagacgct ctgaaaaaat 900
tcttcaagtc agcataatcc aaagtc 926

<210> 618
<211> 936
<212> DNA
<213> Unknown (H38g467 nucleotide)

<220>
<223> Synthetic construct

<400> 618
atggacgggg tgaatgatag ctccttgcag ggctttgttc tgatgagcat atcggaccat 60
ccccagctgg agatgatctt ttttatagcc atcctcttct cctatttgct gaccctactt 120
gggaactcaa ccatcatctt gctttcccgc ctggaggccc ggctccatac acccatgtac 180
ttcttcctca gcaacctctc ctccttggac cttgctttcg ctactagttc agtcccccaa 240
atgctgatca atttatgggg accaggcaag accatcagct atggtggctg cataacccag 300
ctctatgtct tcctttggct gggggccacc gagtgcatcc tgctggtggt gatggcattt 360
gaccgctacg tggcagtgtg ccggcccctc cgctacaccg ccatcatgaa cccccagctc 420
tgctggctgc tggctgtgat tgcctggctg ggtggcttgg gcaactctgt gatccagtca 480
acattcactc tgcagctccc attgtgtggg caccggaggg tggagggatt cctctgcgag 540
gtgcctgcca tgatcaaact ggcctgtggc gacacgagtc tcaaccaggc tgtgctcaat 600
ggtgtctgca ccttcttcac tgcagtccca ctaagcatca tcgtgatctc ctactgcctc 660
attgctcagg cagtgctgaa aatccactct gcagaggggа ggcgaaaggc gttcaatacg 720
tgcctctccc atctgctggt ggtgttcctc ttctatggct cagccagcta tgggtatctg 780
cttccggcca agaacagcaa acaggaccag ggcaagttca tttccctgtt ctactcgttg 840
gtcacaccca tggtgaatcc cctcatctac acgctgcgga acatggaagt gaagggcgca 900
ctgaggaggt tgctggggaa aggaagagaa gttggc 936

<210> 619
<211> 247
<212> DNA
<213> Unknown (H38g468 nucleotide)

<220>
<223> Synthetic construct

<400> 619
ggtgagaggc ttaagacact caacacatgt gtgtcacata tctatgcagt gctgatcttc 60
tatgtgccta tggttagtgt gtccatggtt catcgatttg ggaggcatgc tcctgaatat 120
gtgcacaagt tcatgtctct ttgtacctcc aatgctctac ccaattatct attccatcaa 180
gactaaggag attcgcagga gactacacaa gatgttattg ggagctaagt tctgatcaag 240
gaaaact 247

<210> 620
<211> 936
<212> DNA
<213> Unknown (H38g469 nucleotide)

<220>
<223> Synthetic construct

<400> 620
atggaagtgg gaaattgcac catcctgact gaattcatct tgttgggttt ctcagcagat 60
tcccagtggc agccgattct atttggagtg tttctgatgc tctatttgat aaccttgtca 120
ggaaacatga ccttggttat cttaatccga actgattccc acttgcatac acctatgtac 180
tttttcattg gcaatctgtc tttttggat ttctggtata cctctgtgta tacccccaaa 240
atcctggcca gttgtgtctc agaagataag cgcatttcct tggctggatg tggggctcag 300
ctgtttttt cctgtgttgt agcctacact gaatgctatc tcctggcagc catggcatat 360
gaccgccatg cagcaatttg taacccattg ctttattcag gtaccatgtc caccgccctc 420
tgtactgggc ttgttgctgg ctcctacata ggaggatttt tgaatgccat agcccatact 480
gccaatacat tccgcctgca tttttgtggt aaaaatatca ttgaccactt tttctgtgat 540
gcaccaccat tggtaaaaat gtcctgtaca aacaccaggg tctacgaaaa agtcctgctt 600
ggtgtggtgg gcttcacagt actctccagc attcttgcta tcctgatttc ctatgtcaac 660
atcctcctgg ctatcctgag aatccactca gcttcaggaa gacacaaggc attctccacc 720
tgtgcttccc acctcatctc agtcatgctc ttctatggat cattgttgtt tatgtattca 780
aggcctagtt ccacctactc cctagagagg gacaaagtag ctgctctgtt ctacaccgtg 840
atcaacccac tgctcaaccc tctcatctat agcctgagaa acaaagatat caaagaggcc 900
ttcaggaaag caacacagac tatacaacca caaaca 936

<210> 621
<211> 954
<212> DNA
<213> Unknown (H38g470 nucleotide)

<220>
<223> Synthetic construct

<400> 621
atgcctactg taaaccacag tggcactagc cacacagtct tccacttgct gggcatccct 60
ggcctacagg accagcacat gtggatttct atcccattct tcatttccta tgtcaccgcc 120
cttcttggga acagcctgct catcttcatt atcctcacaa agcgcagcct ccatgaaccc 180
atgtacctct tcctctgcat gctggctgga gcagacattg tcctctccac gtgcaccatt 240
cctcaggcct tagctatctt ctggttccgt gctggggaca tctccctgga tcgttgcatc 300
actcagctct tcttcatcca ttccaccttc atctctgagt cagggatctt gctggtgatg 360
gcctttgacc actatattgc catatgctac ccactgaggt acaccaccat tcttacaaat 420
gctctgatca agaaaatttg tgtgactgtc tctctgagaa gttatggtac aattttccct 480
atcatatttc ttttaaaaag attgactttc tgccagaata atattattcc acacaccttt 540
tgtgaacaca ttggcctagc caaatatgca tgtaatgaca ttcgaataaa catttggtat 600
gggttttcca ttctaatgtc gacggtggtc ttagatgttg tactaatttt tatttcctat 660
atgctgattc tccatgctgt cttccacatg ccttctccag atgcttgcca caaagctctc 720
aacacatttg gctcccatgt ctgcatcatc atcctctttt atgggtctgg catcttcaca 780
atccttaccc agaggtttgg acgccacatt ccaccttgta tccacatccc gttggctaat 840
gtctgcattc tggctccacc tatgctgaat cccattattt atgggatcaa aaccaagcaa 900
atccaggaac aggtggttca gtttttgttt ataaaacaga aataactttt ggtt 954

<210> 622
<211> 942
<212> DNA
<213> Unknown (H38g471 nucleotide)

<220>
<223> Synthetic construct

<400> 622
atggaggctg ccaatgagtc ttcagaggga atctcattcg ttttattggg actgacaaca 60
agtcctggac agcagcggcc tctctttgtg ctgttcttgc tcttgtatgt ggccagcctc 120
ctgggtaatg gactcattgt ggctgccatc caggccagtc cagcccttca tgcacccatg 180
tacttcctgc tggcccacct gtcctttgct gacctctgtt tcgcctccgt cactgtgccc 240
aagatgttgg ccaacttgtt ggcccatgac cactccatct cgctggctgg ctgcctgacc 300
caaatgtact tcttctttgc cctgggggta actgatagct gtcttctggc ggccatggcc 360
tatgactgct acgtggccat ccggcacccc ctcccctatg ccacgaggat gtcccgggcc 420
atgtgcgcag ccctggtggg aatggcatgg ctggtgtccc acgtccactc cctcctgtat 480
atcctgctca tggctcgctt gtccttctgt gcttcccacc aagtgcccca cttcttctgt 540
gaccaccagc ctctcttaag gctctcgtgc tctgacaccc accacatcca gctgctcatc 600
ttcaccgagg gcgccgcagt ggtggtcact cccttcctgc tcatcctcgc ctcctatggg 660
gccatcgcag ctgccgtgct ccagctgccc tcagcctctg ggaggctccg ggctgtgtcc 720
acctgtggct cccacctggc tgtggtgagc ctcttctatg ggacagtcat tgcagtctac 780
ttccaggcca catcccgacg cgaggcagag tggggccgtg tggccactgt catgtacact 840
gtagtcaccc ccatgctgaa ccccatcatc tacagcctct ggaatcgcga tgtacagggg 900
gcactccgag cccttctcat tgggcgaagg atctcagcta gt 942

<210> 623
<211> 946
<212> DNA
<213> Unknown (H38g472 nucleotide)

<220>
<223> Synthetic construct

<400> 623
atctctatgt tctcctgcaa caccagcact tctggtcagt ctaccttcct cctcactggt 60
tttccaggcc tggaagcctc tcatcattgg gtttccatcc ccatcaacct cttctgtgtg 120
gtttccatcc tgggtaataa tatcatcctc ttcctgatcc acacagatcc agccttacat 180
gaacccatgt atatcttcct gtccatgttg gcagcctctg atctgggcct ctgtgcctct 240
accttcccca ctatggtgcg tctcttctgg ctgggagctc gtgagctgcc ctttgatctc 300
tgtgcagcac agatgttctt catccatacc ttcacctatg tggagtccgg tgtactgctg 360
gccatggcct tcgatcgctt tattgccatc cgggaccctc tgcattatgc cataatcatt 420
acctgctcag tcacagccga ggtgggaact gccattctgg tgagggctgt tctgctcaac 480
ctcccgggac ctatcctcct gcagcagctg ctctttccca agatcagcgc tctctgtcac 540
tgctactgcc tgcactgtga ccttgtgggg ttggcctgct cagacaccca gatcaatagc 600
ctggttggcc tggtttccat cctcttctca ctgtgccttg actccttcct catcatgctt 660
tcatatgccc tgatcctatg aactgtgctg ggcattgcat cacctgggga gcggctcaag 720
gcactcaaca cgtgtgtctc acacctctgc attgttctca tcttttattt gcccaaacgg 780
gctgtctgtc ttgcaccgag taaagaagca tgactaccct gctctggcag tgctcatggc 840
caacctacac ttcttggtcc cacccttcat gaaccccatt gtgtattgca tcaagtctag 900
gcagatccgt cagagcctcc taaagcactt ccagcagaag aggatt 946

<210> 624
<211> 960
<212> DNA
<213> Unknown (H38g473 nucleotide)

<220>
<223> Synthetic construct

<400> 624
cacacagagc catggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcccgt cctcgctggg ttgtcccggt ccatgtatct ggtcatggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaacct gtgctgggct gacatcggtt tcacctcggc catggttccc 240
aagatgattg tggacatgca gtctcatagc agagtcatct cttatgcggg ctgcctgaca 300
cggatgtctt tcttggtcct ttttgcatgt atagaagaca tgctcctgac tgcgatggcc 360
tatgactgct ttgtagccat ctgtcgccct ctgcactacc cagtcatcgt gaatcctcac 420
ctctctgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
agttagattg tgttacaatt caccttcttc aagaatgtgg aaatctctaa ttttgtctgt 540
gagccatctc agcttctcaa ccttgcctgt tctgacagcg tcatcaatag catattctta 600
tatttcgata gtactatgtt tggtttttctt cccatttcaa ggatcctttt gtcttactat 660
aaaattgtcc cctctattct aaggatttca tcgtcagatg ggaagtataa agccttctcc 720
acctgtggct ctcacctggc agttgtttgc ttattttatg gaacaggcat tggcgtgtac 780
ctgacttcag ctgtgtcacc acccccccagg agtggtgtgg tggcgtcagt gatgtacgct 840
gtggtcaccc ccatgctgaa ccctttcatc tatagcctga gaaacagaga cattcaaagc 900
gccctctgga ggctgcgcag cagaacagtc gaatctcatg atctgttcca tcctttttct 960

<210> 625
<211> 985
<212> DNA
<213> Unknown (H38g474 nucleotide)

<220>
<223> Synthetic construct

<400> 625
atgaaactca taaaccatac catcagaacc caacctcctt tctgctcatg ggaattccag 60
gcccggaggc atcccacttt tggattgctt ttcccttctg ctccatgtat gccctggcag 120
tgctgggaaa catggtggtg ctgctagtgg tacattcaga gcctgtattg caccagccca 180
tgtacctgtt cctctgcatg ctatccacca ttgacctggt cctctgcacc tccactgtgc 240
ccaagctcct tgcacttttt tgggcaaagg atgctgagat caactttggg gcctgtgctg 300
cccagatgtt ctttatccat ggcttctcag ctgtagaatc tggtatactg ctagcaatgg 360
cctttgaccg ctacttagcc atttgctggc ctctgcacta tgggtcattg ctctccccag 420
agtctgtagg caagctgggg gctgcagcgt gcttcgtggt ttgggactca tgaccccact 480
cacctgctta ctggcaagac tgagctactg cagtcgagtg gtggcccact cctactgtga 540
acacatggct gtggtaaagc tggcttgtgg aggaacacag ccaaacaaca tctatggcat 600
cactgctgcc acactggtgg tgggcactga ctccatctgt attgctgtct cctatgcact 660
catcctccga gctgtgttag gtctttcctc caaggaggca agggctaaga cctttggcac 720
ttgtggctcc cacctgggtg tcatacttct cttctacaca ccaggactct tctccttcta 780
cacacagcgg tttggccagc acgtgccccg gcacatccac atccttctag ctgacctcta 840
cctggttgtg ccacccatgc tcaaccccat catctatggc atgaagacca aacagatctg 900
ggatggggcc ctccggcttc tgaagtgggg ccctgctcag tcataaagtc ttcaacccca 960
ccctgaaacc tttatcttct ttgcc 985

<210> 626
<211> 989
<212> DNA
<213> Unknown (H38g475 nucleotide)

<220>
<223> Synthetic construct

<400> 626
cacacagagc cacggcatct cacaggtgtg tgagaattcc tcctcgtggg actctcagag 60
gatccagaac tgcagcctgt cctcggtggg gtgtccctgt ccatgtatgg ggtcacagtg 120
ataaggaacg tgctcatcat cctgggtgtg agctctgact cccacctcca cacccccatg 180
ttttttttcct ctccaacgtg tggtgggctg acatcagttt cacgtcggcc ggggttccca 240
agatgacggt ggacatgcag tcgcatagca gagtcatcta ttatgcgggc tgcatgactc 300
ggatgtcttt tttcgtcctt ttagcatgta tagaagacat gctcgtgtgt gtgatggcat 360
aggagtgctt tgtagccatg tgtcgccctg tgcaatacac agttattgta aatcctcacc 420

tgtgtgtttt cagagttggg gtgtcctttc tccagagcgt gttgtattcc caggtgcaca 480
gatagagtgt gtcacaattc acttttttca agaatgtgga aatctctcat tttgtgtgtg 540
agccatctca atttctccac tttgcgtgtt gtgacagttt catcaagagc atattcatgt 600
atttcgatag taatatgttt ggttttcttc ccatcacagg gatctttttg tcttaatata 660
aaagtgtccc ctccattata aggatttcat cgtcagatgg aaagtataaa gctttctcca 720
cgtgtggctc tcacgtggca gttgtttgct tattatatgg aacaggcatt ggggtgtaca 780
tgacttcagg tgtggcacca ccccccagca atggtgtggt ggcatcagtg aagtacgcgg 840
tggtcacccc catgctgacc cctttcatct acagcgtgag aaacagggac attcaaagcc 900
ccctgtggag tgtgtgcagc agcacagtta aatcttttga tgtgtcccat ctttttgtg 960
tgtgggtaag aaagggcacc cacattaaa 989

<210> 627
<211> 512
<212> DNA
<213> Unknown (H38g476 nucleotide)

<220>
<223> Synthetic construct

<400> 627
cacacacagc cacggggtct cacacgtgtg tgagaattcc tcctcctggg actctcacag 60
gatccacaac tgcagctgtg ctctctgggc tgtccctgtg catgtgtctg ggcacacagc 120
tggggaacct gctgcatcat cctgggtgtg agctctgact cccacctcca cacccccatg 180
tactcttttc tctccaacct gtgctggggc tgacatcagt ttcacctcca ccacggggcc 240
caagttgatt gtggacatcc actcttacac cagagacatc tcctatgcac gctgtctgac 300
tcacacacct ctctttgcca tttttggagg cgtgggaaag agacatgctc ctgagagtga 360
tgggctatga ccgcgttgta gacatctgtg accctctata tcattcacac gccatgaacc 420
cctgtgtctg tggctctcta gatttgtggt ctcttttttt tctcacactt ttatacaccc 480
acctgcacaa ctcgattgcc ttacacatga cc 512

<210> 628
<211> 967
<212> DNA
<213> Unknown (H38g477 nucleotide)

<220>
<223> Synthetic construct

<400> 628
atgaatgaga caaatcattc ttgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttata ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac ccccatgtac 180
tttctgcttg ccaacctgtc atttatagac gtatgtgttg cctcttctgc taccccctaaa 240
atgattgcag actttctggt tgagcacaag actatttctt ttgatgcccg cctggcccag 300
attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctccc cactacatga caatcatgag ctgctgtgta 420
tgtgttgtgc tcttcctcat ttcctggttt gtgggcttca tccataccac cagccagttg 480
gcattcactg ttaatctgcc attttgtggt cctaataagg tagatagttt ttttctgtga 540
ccttcctcta gtgaccaagt tagcctgcat agacacttat gttgtcagcc tactaatagt 600
tgcagatagt ggctttcttt ctctgagttc ctttctcctc ttggttgtct cctacactgt 660
aatacttgtt acagttagga atagctcctc tgtaagcatg gtgaaggcct gctccacatt 720
gactgctcac atcactgtgg tcactttatt ctttggaccg tgtattttca tctatgtgtg 780
gcccttcagc agttactcag ttgacaaagt ccttgctgta ttctacacca tcttcacgtc 840
tattttaaac cctgtaatct acatgctaag aaacaaagaa gtgaaggcag ctatgtcaaa 900
actgaagagt cggtatcaga agcttggtca ggtttctgta gtcataagaa acgttctttt 960
cctagaa 967

<210> 629
<211> 942
<212> DNA
<213> Unknown (H38g478 nucleotide)

<220>
<223> Synthetic construct

<400> 629
atggaggggt ttaactattc cagagtatct gaattcatgt tacttggact tactgattct 60
cctgaactcc agatattctt ttttgtggtg ttttctgtct tctatttaat gaccatgttg 120
ggcaactgcc tgattttact cactgtccta tccacctcac accttcactc tcgcacgtac 180
ttcctgctca gcaacctgtc tcattgacat gtgcctgtcc tcctttgcca caccaaagat 240
gattatggac ttttttgctc tgcgtaagac catctctttt gaaggctgca tttctcagat 300
cttttttta cacctcttca atgggactga gattgtgctg ctgatctcca tgtcttttga 360
caggtatatt gccatatgta aacctctccg ctattcaaca attatgagcc aaagagtgtg 420
tgttgagctt gtggcagttt cttgttggac agtgggcttt ctacatacaa tgagccaatt 480
agtttttccc tctatttgcc cttctgtgtt cccaatgttg tagacagttt tttctgtgat 540
cttcctttgg tcatccagtt agcttgtata gatatttatg ttcttgggac ctccatgatt 600
tcaaccagtg gtgtgactgc tcttacaagt tttctgcttt tgctcacctc ctacatcatt 660
gttcttaata ctatcaggga ctactcctcc acaggatcct ccaaggctct ttctacctgt 720
acagcacatt ttattgttgt gttaatgttc tttgggccct gtattttcat ttatgtgtgg 780
ccttccacaa acttcctggt agacaaaatt ctctctgttt tctataccat cttcactccc 840
tttctgaatc cacttatcta tactttgaga aaccaggaag tgaagacagc aatgaagaag 900
aaactgaata ttcagtattt cagtcttggg aaaactgctc cg 942

<210> 630
<211> 595
<212> DNA
<213> Unknown (H38g479 nucleotide)

<220>
<223> Synthetic construct

<400> 630
atgaacccgt gtttgtgtgg ctttagagtt gtggtgtctt tttttttca cagtctttta 60
ggcgcacagg tgcacaactt gagcgcctca caaatgacgt gtttcgagta tgtggaaatt 120
cataatttct tgtgtgccct ttctcaactc ccccatcgtg catggtgtga cactttcccc 180
aataacataa tcgtgtattt tcctgctgcc atatttggtt ttcttcccat cgcggggacc 240
ccttttctct taatatgaaa gtgtttcctc cattgagagg gtttcatcat aaggtggaga 300
gtataaggct ttccccacgt gtgggtctca cctctcagtc gtttgctgat tatatggcac 360
aggcgttgga gggcacctca gttcagatgt gtcatcttcc ccgagaaagt ctgcggtggc 420
ctcagtgatg tacactgtgg tcaccccat gctgaaccct ttcatctaca gcatgagaaa 480
cagggatact aaaagtgtcc tgcggcggcc gcacggcagc acggtgtaat tttgatatct 540
tcttatctgt cccattcctt ttgtagtgtg ggttaaaaaa ggcagaaagg tcaaa 595

<210> 631
<211> 942
<212> DNA
<213> Unknown (H38g480 nucleotide)

<220>
<223> Synthetic construct

<400> 631
atgctgggtc tcaatggcac cccccttccag ccagcaacac tccagctgac aggcattcct 60
gggatacaaa caggcctcac ctgggttgcc ctgattttct gcatcctcta catgatctcc 120
attgtaggta acctcagcat tctcactctg gtgttttggg agcctgctct gcatcagccc 180
atgtactact tcctctctat gctcgctctc aatgatctgg gagtgtcctt ttctacactt 240
cccactgtga tttctacttt ctgcttcaac tacaaccatg ttgcgtttaa tgcttgcctg 300
gtccagatgt tcttcatcca cactttctcc ttcatggagt caggcatact gctggccatg 360
agcttggatc gctttgtggc tatttgttat ccattacgct atgtcactgt gctcactcac 420
aaccgtatat tggctatggg tctgggcatc cttaccaaga gtttcaccac tctcttccct 480
ttccctttttg tggtgaaacg actgcccttc tgcaaaggca atgttttgca tcactcctac 540
tgtctccatc cagatctcat gaaagtagca tgtggagaca tccatgttaa caacatttat 600

```
gggctcttgg tgatcatttt tacctatggt atggactcaa ctttcatcct gctttcctac     660
gcattgatcc tgagagccat gctggtcatc atatcccagg aacagcggct caaggcactc     720
aacacctgca tgtcacacat ctgtgcagtg ctggcctttt atgtgcccat aattgctgtc     780
tccatgattc accgcttctg gaaaagtgct ccacctgttg ttcatgtcat gatgtccaat     840
gtctacctgt ttgtaccacc catgctcaac cctatcatct acagtgtgaa aaccaaggag     900
atccgcaaag ggattctcaa gttcttccat aaatcccagg cc                        942
```

<210> 632
<211> 936
<212> DNA
<213> Unknown (H38g481 nucleotide)

<220>
<223> Synthetic construct

<400> 632

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atggggttgt tcaatgtcac tcaccctgca ttcttcctcc tgactggtat ccctggtctg      60
gagagctctc actcctggct gtcagggccc ctctgcgtga tgtatgctgt ggcccttggg     120
ggaaatacag tgatcctgca ggctgtgcga gtggagccca gcctccatga gcccatgtac     180
tacttcctgt ccatgttgtc cttcagtgat gtggccatat ccatggccac actgcccact     240
gtactccgaa ccttctgcct caatgcccgc aacatcactt ttgatgcctg tctaattcag     300
atgtttctta ttcacttctt ctccatgatg gaatcaggta ttctgctggc catgagtttt     360
gaccgctatg tggccatttg tgacccettg cgctatgcaa ctgtgctcac cactgaagtc     420
attgctgcaa tgggtttagg tgcagctgct cgaagcttca tcaccctttt ccctcttccc     480
tttcttatta agaggctgcc tatctgcaga tccaatgttc tttctcactc ctactgcctg     540
cacccagaca tgatgaggct tgcctgtgct gatatcagta tcaacagcat ctatggactc     600
tttgttcttg tatccacctt tggcatggac ctgtttttta tcttcctctc ctatgtgctc     660
attctgcgtt ctgtcatggc cactgcttcc cgtgaggaac gcctcaaagc tctcaacaca     720
tgtgtgtcac atatcctggc tgtacttgca ttttatgtgc caatgattgg ggtctccaca     780
gtgcaccgct ttgggaagca tgtcccatgc tacatacatg tcctcatgtc aaatgtgtac     840
ctatttgtgc ctcctgtgct caaccctctc atttatagcg ccaagacaaa ggaaatccgc     900
cgagccattt tccgcatgtt tcaccacatc aaaata                               936
```

<210> 633
<211> 467
<212> DNA
<213> Unknown (H38g482 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(467)
<223> n = A,T,C or G

<400> 633

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atggaaagca atcagacctg gatcacagaa gtcatcctgt tgggattcca ggtggaccca      60
gctctggagt tgttcctctt tgggtttttc ttgctattct acagcttaac cctgatggga     120
aatgggatta tcctggggct catctacttg gactctagac tgcacacacc catgtatgtc     180
ttcctgtcac acctggccat tgtggacatg tcctatgcct cgagtactgt ccctaagatg     240
ctagcaaatc ttgtgatgca caaaaaagtc atctcctttg ctccttgcat acttcagact     300
tttttgtatt tggcgtttgc tattacagag tgtctgattt tggtgatgat gtgctatgat     360
cggtatgtgg caatctgtca ccccttgca atacacccnt cattatgaac tggagagtgt      420
gcactgtcct ggcctcaact tgctggatat ttagctttct cttggct                   467
```

<210> 634
<211> 988
<212> DNA
<213> Unknown (H38g483 nucleotide)

<220>

<223> Synthetic construct

<221> misc_feature
<222> (1)...(988)
<223> n = A,T,C or G

<400> 634
atggaatgca accagacatg gatcacagac atcaccctgc tgggattcca ggttggtcca 60
gcactggcga ttctcatctn gtgaactctt ctctgtcttc tatacactca ccctgctggg 120
gaatggggtc atctttggga ttatctgcct ggactctaag cttcacacac ccatgtactt 180
cttcctctca cacctggcca tcattgacat gtcctatgct tccaacaatg ttcccaagat 240
gttggcaaac ctaatgaacc agaaaagaac catctccttt gttccatgca taatgcagac 300
ttttttgtat ttggcttttg ctgttacaga gtgcctgatt ttggtggtga tgtcctatga 360
taggtatgtg gccatctgcc accctttcca gtacactgtc atcatgagct ggagagtgtg 420
cacgatcctg gttctcacgt cctggtcatg tgggtttgcc ctgtccctgg tacatgaaat 480
tctccttcta aggttgccct tctgtgggcc ccgggatgtg aaccacctct tctgtgaaat 540
tctatctgtc ctcaagctgg cctgtgctga cacctgggtt aaccaagtgg tcatatttgc 600
tacctgtgtg tttgtcttag tcgggcctct ttccttgatt ctggtctcct acatgcacat 660
cctcggggcc atcctgaaga tccagacaaa ggagggccgc ataaaggcct tctccacctg 720
ctcctcccac ctgtgtgtgg ttggactatt ctttggcata gccatggtgg tttacatggt 780
cccagactct aatcaacgag aggagcagga gaaaatgctg tccctgtttc acagtgtctt 840
gaacccaatg ctgaaccccc tgatctacag cctgaggaat gctcagttga agggcgccct 900
ccacagagca ctccagagga agaggtccat gagaacggtg tatgggcttt gcctttaaaa 960
catgtggttt gctgaagcaa gaattttg 988

<210> 635
<211> 941
<212> DNA
<213> Unknown (H38g484 nucleotide)

<220>
<223> Synthetic construct

<400> 635
atgggagtca accaatcatg gtcaccagaa ttcatcctgg tggaatccca gctcagtgcc 60
gagatggaag tgctcctctt ttagatcttc tccctgttat acatcttcag cctgctggca 120
aatggcatga tcttgggact catctgtctg gaccacattc tgcctacccc catgtacttc 180
ttcctctcac acctggccat cattgacatg tcctatgctt ccaacaatgt tcccaagatg 240
ttggcaaatc tgatgaacaa gaaaagaacc atctcctttc ttccatgcat aatgcagacc 300
tatttgtatt tctcttttgc tgctacagag tgtctgattt tggtggtgat gtcctatgat 360
aggtatgtgg ccatttgcca ccctctccag tacactgtca tcatgagctg gagagtgtgc 420
acgatcctgg ctctcacatc ctggtcatgt gggtttgccc tgtccctggt acatgcaatt 480
cttcttctaa ggttgccgtt ctgcgggccc cgggatgtga accacctctt ctgtgaaatt 540
ctgtctgtcc tcaagctggc ctgttctgac acctggggtt aaccacagtg gtcatatttg 600
ctacctgtgt gtttgtctta gttggacctc tttgtttgat gcttgtctcc tacatgcaca 660
tcctctggcc atcctaaaga tccagacaaa ggaagccgca taaaggcctt ctcgacctgc 720
tcctccccacc tgtgtgtggt tggactcttc ttgtggcata gccactggtg gtttacatag 780
tcccagactc taatcaacga gaggagcagg agaaaatgct gtccctgttt cacagtgtct 840
tgaacccaat tctgaacccc ctgatctaca gtctgaggaa tgctcaggtg aagggcgccc 900
tccacagagc actgcagagg acgctgtcta tgtaaggagt g 941

<210> 636
<211> 1002
<212> DNA
<213> Unknown (H38g485 nucleotide)

<220>
<223> Synthetic construct

<400> 636
atgtgttatc tttctcagct atgcctcagc cttggggaac acactttaca tatggggatg 60

gtgagacata ccaatgagag caacctagca ggtttcatcc ttttagggtt ttctgattat 120
cctcagttac agaaggttct atttgtgctc atattgattc tgtatttact aactattttg 180
gggaatacca ccatcattct ggtttctcgt ctggaaccca agcttcatat gccgatgtat 240
ttcttccttt ctcatctctc cttcctgtac cgctgcttca ccagcagtgt tattccccag 300
ctcctggtaa acctgtggga acccatgaaa actatcgcct atggtggctg tttggttcac 360
ctttacaact cccatgccct gggatccact gagtgcgtcc tcccggctgt gatgtcctgt 420
gaccgctatg tggctgtctg ccgtcctctc cattacactg tcttaatgca tatccatctc 480
tgcatggcct tggcatctat ggcatggctc agtggaatag ccaccaccct ggtacagtcc 540
accctcaccc tgcagctgcc cttctgtggg catcgccaag tggatcattt catctgcgag 600
gtccctgtgc tcatcaagct ggcttgtgtg ggcaccacgt ttaacgaggc tgagcttttt 660
gtggctagta tcctttttcct tatagtgcct gtctcattca tcctggtctc ctctggctac 720
attgcccacg cagtgttgag gattaagtca gctaccagga gacagaaagc attcgggacc 780
tgcttctccc acctgacagt ggtcaccatc ttttatggaa ccatcatctt catgtatctg 840
cagccagcca agagtagatc cagggaccag ggcaagtttg tttctctctt ctacactgtg 900
gtaacccgca tgcttaaccc tcttatttat accttgagga tcaaggaggt gaaaggggca 960
ttaaagaaag ttctagcaaa ggctctggga gtaaatattt ta 1002

<210> 637
<211> 510
<212> DNA
<213> Unknown (H38g486 nucleotide)

<220>
<223> Synthetic construct

<400> 637
atggaaggca acaagacatg gatcacagac atcaccttgc cgcgattcca ggttggtcca 60
gcactggaga ttctcctctg tggacttttc tctgccttct atacactcac cctgctgggg 120
aatggggtca tctttgggat tatctgcctg gactgtaagc ttcacacacc catgtacttc 180
ttcctctcac acctggccat tgttgacata tcctatgctt ccaactatgt ccccaagatg 240
ctgacgaatc ttatgaacca ggaaagcacc atctcctttt ttccatgcat aatgcagaca 300
ttcttgtatt tggcttttgc tcacgtagag tgtctgattt tggtggtgat gtcctatgat 360
cgctatgcgg acatctgcca ccccttacgt tacaatatcc tcatgagctg gagagtgtgc 420
actgtcctgg ctgtggcttc ctgggtgttc agcttcctcc tggctctggt cccgtttagt 480
tctcagtcgc tgaggtgcat gaacgtactg 510

<210> 638
<211> 924
<212> DNA
<213> Unknown (H38g487 nucleotide)

<220>
<223> Synthetic construct

<400> 638
atggacacag gcaacaaaac tctgccccag gactttctct tactgggctt tcctggttct 60
caaactcttc agctctctct ctttatgctt tttctggtga tgtacatcct cacagttagt 120
ggtaatgtgg ctatcttgat gttggtgagc acctcccatc agttgcatac cccatgtac 180
ttctttctga gcaacctctc cttcctggag atttggtata ccacagcagc agtgcccaaa 240
gcactggcca tcctactggg gagaagtcag accatatcat ttacaagctg tcttttgcag 300
atgtactttg ttttctcatt aggctgcaca gagtacttcc tcctggcagc catggcttat 360
gaccgctgtc ttgccatctg ctatccttta cactacggag ccatcatgag tagcctgctc 420
tcagcgcagc tggccctggg ctcctgggtg tgtggtttcg tggccattgc agtgcccaca 480
gccctcatca gtggcctgtc cttctgtggc cccgtgcca tcaaccactt cttctgtgac 540
attgcaccct ggattgccct ggcctgcacc aacacacagg cagtagagct tgtggccttt 600
gtgattgctg ttgtggttat cctgagttca tgcctcatca cctttgtctc ctatgtgtac 660
atcatcagca ccatcctcag gatcccctct gccagtggcc ggagcaaagc cttctccacg 720
tgctcctcgc atctcaccgt ggtgctcatt tggtatgggt ccacagtttt ccttcacgtc 780
cgcacctcta tcaaagatgc cttggatctg atcaaagctg tccacgtcct gaacactgtg 840
gtgactccag ttttaaaccc cttcatctat acgcttcgta ataaggaagt aagagagact 900
ctgctgaaga aatggaaggg aaaa 924

<210> 639
<211> 669
<212> DNA
<213> Unknown (H38g488 nucleotide)

<220>
<223> Synthetic construct

<400> 639
aaagaaatgg gatgtcacca atcaatggtc acagaattca tcctggtggg attccagctc 60
agtgctgaga tggaagtgct cctcttttgg agcttctccc ttggaatagc cttggaactc 120
atctgtctgg accacagtct gcacactctc atacttcttc ctctcacacc tggccgtcat 180
tgacatggcc tatgcttcca acaatgttcc caagatgctg gtggatcttg caaactagaa 240
aagcaccatg tgctttttc catgcataat gcagacattc ttgtatttgg cttttgctca 300
catagagtgt ctgattttgg tggttttgtc ctatgatcgc tatgtggcca tctgccaccc 360
cttacgttac aatgtcctca tgagctggag agagtgcact gtcctggctg tggcttcctg 420
ggtgttcagc ttcctcctgg ctctggtcca tttagttctc attctgaggc tgcccttcag 480
tgggctcatg aaatcaacca ctactgtgaa atcctgtctg tcctcaagtt ggcctgtgct 540
gacacctggc tcaaccaggt ggtcatcttt gcaagctgca tgttcatcct ggtagggtga 600
ctctgcctgg tgctggtctc ttacttgggc atctggcggc atctgagatc agttgcgaag 660
ccaaaaagg 669

<210> 640
<211> 927
<212> DNA
<213> Unknown (H38g489 nucleotide)

<220>
<223> Synthetic construct

<400> 640
atgggattgg gcaatgagag ttccctaatg gatttcatcc ttctaggctt ctcagaccac 60
cctcgtctgg aggctgttct ctttgtattt gtcctttttct tctacctcct gacccttgtg 120
ggaaacttca ccataatcat catctcatat ctggatcccc ctcttcatac cccaatgtac 180
ttttttctca gcaacctctc tttactggac atctgcttca ctactagcct tgctcctcag 240
accttagtta acttgcaaag accaaagaag acgatcactt acggtggttg tgtggcgcaa 300
ctctatattt ctctggcact gggctccact gaatgtatcc tcttggctga catggccttg 360
gatcggtaca ttgctgtctg caaacccctc cactatgtag tcatcatgaa cccacggctt 420
tgccaacagc tggcatctat ctcctggctc agtggtttgg ctagttccct aatccatgca 480
acttttacct tgcaattgcc tctctgtggc aaccataggc tggaccattt tatttgcgaa 540
gtaccagctc ttctcaagtt ggcttgtgtg gacaccactg tcaatgaatt ggtgcttttt 600
gttgttagtg ttctgtttgt tgtcattcca ccagcactca tctccatctc ctatggcttc 660
ataactcaag ctgtgctgag gatcaaatca gtagaggcaa ggcacaaagc cttcagcacc 720
tgctcctccc accttacagt ggtgattata ttctatggca ccataatcta cgtgtacctg 780
caacctagtg acagctatgc ccaggaccaa gggaagttta tctccctctt ctacaccatg 840
gtgacccccca ctttaaatcc tatcatctat actttaagga acaaggatat gaaagaggct 900
ctgaggaaac ttctctcggg aaaattg 927

<210> 641
<211> 1012
<212> DNA
<213> Unknown (H38g490 nucleotide)

<220>
<223> Synthetic construct

<400> 641
tctacagacc cacagaatct aacagatgtc tctgtattcc tcctcctaga actacagagg 60
atccagaacg gcagccggtc ctcactgggc tgttcctgtc catgtgcctg gtcatggtgc 120
tggggaacct gctcatcatc ctggccatca gccctgactc ccacctccac atccccatgt 180

acttcttcct ctccaacctg tccttgcctg acatcggttt cacctccacc acggtcccca 240
agatgattgt ggacatccag tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg 360
gcctatgacc ggtttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gcttcctagt tttgttgtct tttttttct gtcctcagtc ttttagactc 480
ccagctgcac aacttgattg ccttacaagt gacctgcttc aaggatgtgg aaattcctaa 540
tttcttctgt gacccttctc aactccccca tcttgcatgt tgtgacacct tcaccaataa 600
gataatcatg tatttccctg ctgccatatt tggttttctt cccatctcag ggaccctttt 660
ctcttactct aaaattgttt cctccattct gagggtttca tcatcaggtg ggaagtataa 720
agccttctcc acctgtgggt ctcacctgtc agttgtttgc tgagtttatg gaacaggcgt 780
tggaggttac ctcagttcag atgatgtgtc atcttccccc agaaagggtg cagtggcctc 840
agtgatgtac acggtggtca cccccatgcc gaaccccttc atctacagcc tgagaaacag 900
ggatattaaa agtgtcctgc ggcggccgca cggcagcaca gtctaatctc aatatcttct 960
tatctgttcc attccttttg tagtgtgggt taaaaaaggc agaaaggtca aa 1012

<210> 642
<211> 879
<212> DNA
<213> Unknown (H38g491 nucleotide)

<220>
<223> Synthetic construct

<400> 642
atgggatttt cgaattcctg ggatattcag attgtacatg ctgctctatt cttcctagtt 60
tacctggcag ctgtcatagg aaatctccta atcatcatac ttaccactct ggatgttcac 120
ctccaaaccc caatgtattt ctttttgaga aacttgtctt tcttagattt ttgttacatc 180
tctgtcacaa ttccaaaatc tattgttagt tccttgactc atgatacttc catttctttc 240
tttgggtgtg ctctgcaagc cttctttttc atggacttgg caactacgga ggtagccatc 300
cttacagtga tgtcctatga ccgctatatg gccatctgcc ggcctttaca ttatgaggtc 360
atcataaacc aaggtgtctg tctgaggatg atggccatgt cgtggctcag tggggtgatc 420
tgtggattca tgcatgtgat agcaacattc tcattaccat tctgtgggcg caatagaata 480
cgtcaatttt tctgtaatat tccacagctc ctaagcctct tagaccccaa agtaattacc 540
attgagattg gagtcatggt ttttggtaca agtcttgtga taatctcctt tgttgtaatt 600
actctctcct acatgtacat tttttctgtc atcatgagga ttccttctaa ggagggtaga 660
tcaaaaacat tttctacctg cattccacat cttgtggttg taacactctt tatgatatct 720
ggcagcattg cctatgtgaa gccaatttca aattctcccc ccgttctgga tgttttcctg 780
tctgcgttct acacagtcgt gcccccgacc ctgaaccccg tcatctatag tctgaggaat 840
agggacatga aggcagccct gagaaggcag tgtggtccc 879

<210> 643
<211> 1020
<212> DNA
<213> Unknown (H38g492 nucleotide)

<220>
<223> Synthetic construct

<400> 643
atgatgggcc atcagaatca cactttcagc agtgatttca tacttttggg attgttctct 60
tcttccccaa caagtgtggt cttcttctta gacaatttgt cattttcatt atgagtgtaa 120
cagaaaatac gctcatgatc ctcctcattc gcagtgactc ccgactccac actccaatgt 180
attttctgct cagccatctc tccttaatgg atatcttgca tgtttccaac atcgttccca 240
aaatggtcac taactttctg tcaggcagca gaactatttc atttgcaggt tgtgggttcc 300
aggtatttct gtccctcacc ctcctgggtg gtgagtgcct tctcctggct gcaatgtcct 360
gtgatcgcta tgtggctatc tgtcacccgc tgcgctatcc gattcttatg aaggagtatg 420
ccagcgctct catggctgga ggctcctggc tcattggggt tttcaactcc acagtccaca 480
cagcttatgc actgcagttt cccttctgtg gctctagggc aattgatcac ttcttctgtg 540
aagtccctgc catgttgaag ttgtcctgtg cagacacaac acgctatgaa cgaggggttt 600
gtgtaagtgc tgtgatcttc ctgctgatcc ctttctcctt gatctctgct tcttatggcc 660
aaattattct tactgtcctc cagatgaaat catcagaggc aaggaaaaag tcattttcca 720

cttgttcctt ccacatgatt gtggtcacga tgtactatgg gccatttatt tttacatata 780
tgagacctaa atcataccac actccaggcc aggataagtt cctggcaata ttctatacga 840
tcctcacacc cacactcaac cctttcatct acagctttag gaataaagat gttctggcgg 900
tgatgaaaaa tatgctcaaa agtaactttc tgcacaaaaa aatgaatagg aaaattcctg 960
aatgtgtgtt ctgtctattt ctatgttaaa tgcctgaagg atactcatga gaggtttcct 1020

<210> 644
<211> 932
<212> DNA
<213> Unknown (H38g493 nucleotide)

<220>
<223> Synthetic construct

<400> 644
atgaagtggg caaaccagac agctgtgacg gaatacgtcc tgatggggct acacgagcac 60
tgtaacctgg aggtggtcct gtttgtgttc tgcctgggca tctactccgt gaatgtgttg 120
gggaacgccc tcctcatagg gctgaacgtg ctgcaccctc gcctgcacaa ccccatgtac 180
ttctcagcaa cctctccctc atggacatct gcggcacctc ctcctttgtg cctctcatgc 240
tagacaattt cctggaaacc cagaggacca tttccttccc tggctgtgcc ctgcagatgt 300
acctgaccct ggcgctggga tcaacggagt gcctgctgct ggctgtgatg gcatatgacc 360
gttatgtggc tatctgccag ccgcttaggt acccagagct catgagtggg cagacctgca 420
tgcagatggc agcgctgagc tgggggacag gctttgccaa ctcactgcta cagtccatcc 480
ttgtctggca cctccccttc tgtggccacg tcatcaacta cttctatgag atcttggcag 540
tgctaaaact ggcctgtggg gacatctccc tcaatgcgct ggcattaatg gtggccacag 600
ccgtcctgac actggccccc ctcttgctca tctgcctgtc ttacctttc atcctgtctg 660
ccatccttag ggtaccctct gctgcaggcc ggtgcaaagc cttctccacc tgctcagccc 720
accgcacagt ggtggtggtt ttttatggga caatctcctt catgtacttc aaacccaagg 780
ccaaggatcc caacgtggat aagactgtcg cattgttcta cggggttgtg acgccctcgc 840
tgaaccccat catttacagc ctgaggaatg cagaggtgaa agctgccgtc ctaactctgc 900
tgagaggagg tttgctctcc aggaaagcat cc 932

<210> 645
<211> 957
<212> DNA
<213> Unknown (H38g494 nucleotide)

<220>
<223> Synthetic construct

<400> 645
atgatggaaa tagccaatgt gagttctcca gaagtctttg tcctcctggg cttctccaca 60
cgaccctcac tagaaactgt cctcttcata gttgtcttga gtttttacat ggtatcgatc 120
ttgggcaatg gcatcatcat tctggtctcc catacagatg tgcacctcca cacacctatg 180
tacttctttc ttgccaacct cccccttcctg gacatgagct tcaccacgag cattgtccca 240
cagctcctgg ctaacctctg ggaccacag aaaaccataa gctatggagg gtgtgtggtc 300
cagttctata tctcccattg gctgggggca accgagtgtg tcctgctggc caccatgtcc 360
tatgaccgct acgctgccat ctgcaggcca ctccattaca ctgtcattat gcatccacag 420
ctttgccttg ggctagcttt ggcctcctgg ctgggggtc tgaccaccag catggtgggc 480
tccacgctca ccatgctcct accgctgtgt gggaacaatt gcatcgacca cttcttttgc 540
gagatgcccc tcattatgca actggcttgt gtggatacca gcctcaatga gatggagatg 600
tacctggcca gctttgtctt tgttgtcctg cctctggggc tcatcctggt ctcttacggc 660
cacattgccc gggccgtgtt gaagatcagg tcagcagaag ggcggagaaa ggcattcaac 720
acctgttctt cccacgtggc tgtggtgtct ctgttttacg ggagcatcat cttcatgtat 780
ctccagccag ccaagagcac ctcccatgag cagggcaagt tcatagctct gttctacacc 840
gtagtcactc ctgcgctgaa cccacttatt tacaccctga ggaacacgga ggtgaagagc 900
gccctccggc acatggtatt agagaactgc tgtggctctg caggcaagct ggcgcaa 957

<210> 646
<211> 792
<212> DNA

<213> Unknown (H38g495 nucleotide)

<220>
<223> Synthetic construct

<400> 646
atgatggttc tgagtatcgt tttgacctcc ctgtttggca attccctcat gattctcctg 60
attcactggg accaccggtt ccacacgccc atgtacttcc tcctgagcca actttccctc 120
atggacgtga tgctggtttc caccactgtg cccaaaatgg cggctgacta cttgaccgga 180
agtaaggcca tctcccgcgc tggctgtggt gcgcagatct tcttcctccc cacactgggt 240
ggtggagagt gcttcctctt agcagccatg gcctatgacc gctatgcggc tgtctgccac 300
ccactccgat atcccactct catgagctgg cagctgtgcc tgaggatgaa cctgtcgtgt 360
tggctcctgg gtgcagctga cgggctcctg caggctgttg ctaccctgag cttcccatat 420
tgcggtgcac acgagatcga tcacttcttc tgcgagaccc ccgtgctggt gcgtttggct 480
tgtgctgaca cttcagtctt cgaaaacgcc atgtacatct gctgtgtgtt aatgctcctg 540
gtcccctttt ccctcatcct gtcctcctat ggtctcatcc tcgctgctgt tctgcacatg 600
cgctctacag aagcccgcaa gaaggccttt gccacctgct cttcacatgt ggctgtggtg 660
ggactctttt atggagctgc cattttttacc tatatgagac ccaaatccca caggtccact 720
aaccacgaca aggttgtgtc agccttctat actatgttca ccccttttact aaaccccctc 780
atctacagtg tg 792

<210> 647
<211> 662
<212> DNA
<213> Unknown (H38g496 nucleotide)

<220>
<223> Synthetic construct

<400> 647
aatctgtctt tcttagatct ctgctttaca gcaagcattg cccctcagct gctgtggaac 60
ctggggggtc cagagaagac catcacctac cacggctgtg tggcccaact ctacatctac 120
atgatgctgg gctccaccga gtgcgtcctc ctggttgtca tgtcccatga ccgctatgtg 180
gccgtctgcc ggtccctgca ctacatggca gtcatgcgcc cacatctctg cctgcagctg 240
gtgactgtgg cctggtgctg tggcttccta aactccttca tcatgtgtcc tcagacgatg 300
cagctctccc ggtgtggacg tcgcagggtg gaccacttcc tgtgtgagat gcctgctctt 360
attgccatgt cttgtgagga aaccatgctg gtagaagcga ttcacctttg ccctgggggt 420
ggctctcctc ctggtgccgc tctccctcat cctcatctcc tacggcgtga ttgcagccgc 480
ggtgctgagg atgaagtcag cagcagggcg aaagaaagcc ttccacacct gctcttctca 540
cctcacagtg gtctctctct tctacggaac catcatctac ggtgtacctg aagccggcca 600
acagctactc ccaagatcag gggaagttcc tgactctctt ctacaccatc gtcattccca 660
gc 662

<210> 648
<211> 936
<212> DNA
<213> Unknown (H38g497 nucleotide)

<220>
<223> Synthetic construct

<400> 648
atggagccgc tcaacagaac agaggtgtcc gagttctttc tgaaaggatt ttctggctac 60
ccagccctgg agcatctgct cttccctctg tgctcagcca tgtacctggt gaccctcctg 120
gggaacacag ccatcatggc ggtgagcgtg ctagatatcc acctgcacac gcccgtgtac 180
ttcttcctgg gcaacctctc taccctggac atctgctaca cgcccacctt tgtgcctctg 240
atgctggtcc acctcctgtc atcccggaag accatctcct ttgctgtctg tgccatccag 300
atgtgtctga gcctgtccac gggctccacg gagtgcctgc tactggccat cacggcctat 360
gaccgctacc tggccatctg ccagccactc aggtaccacg tgctcatgag ccaccggctc 420
tgcgtgctgc tgatgggagc tgcctgggtc ctctgcctcc tcaagtcggt gactgagatg 480
gtcatctcca tgaggctgcc cttctgtggc caccacgtgg tcagtcactt cacctgcaag 540

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atcctggcag tgctgaagct ggcatgcggc aacacgtcgg tcagcgaaga cttcctgctg    600
gcgggctcca tcctgctgct gcctgtaccc ctggcattca tctgcctgtc ctacttgctc    660
atcctggcca ccatcctgag ggtgccctcg gccgccaggt gctgcaaagc cttctccacc    720
tgcttggcac acctggctgt agtgctgctt ttctacggca ccatcatctt catgtacttg    780
aagcccaaga gtaaggaagc ccacatctct gatgaggtct tcacagtcct ctatgccatg    840
gtcacgacca tgctgaaccc caccatctac agcctgagga acaaggaggt gaaggaggcc    900
gccaggaagg tgtggggcag gagtcgggcc tccagg                              936
```

<210> 649
<211> 940
<212> DNA
<213> Unknown (H38g498 nucleotide)

<220>
<223> Synthetic construct

<400> 649

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atggaaaggg gaaattggac attggtgact gagtttattc ttgtggggat accaaccacc     60
agagcccttg gggcctcct ctttgtgatt ttttatcagc ctatttggtg acagtccttg     120
gaaacaccct tattattatc ctgattcttg tggattacag gctccactca cccatgtatt    180
tcttcctcag caatctctct ttcagtgaaa cattaaccat aacctgtgct gttcctaaga    240
tgctggaggg cttcccgtcg gaaaggaaga gcatcacaag tggcgaatgc tctgcacagt    300
cctatttcta ttttctttcc ggatgcactg agtttattcc ttttgctgtc atgtcctatg    360
accgctatgt ggccatttgc agtcctcttc agtaccctgc aattatgacc agctcactct    420
gtgcccacct cgtcatcctc tcctgggtgg gtggctttct cctcatgctc ccatccacca    480
tcctcaaggc aggactgcca cactgtggtc ccaacgtgat tgagcacttt ttctgtgaca    540
gcgcccctct cctccacctg gcctgtgctg acattcgtgc tattgagctg ttggactttc    600
tcagctcact ggtcctgatc ctcagctccc tctcactcac agtggtctcc tatgtttaca    660
tcatctccac cattctgaag ataccctcag gccaaggtca acgcaaagcc tttgccacct    720
gtgcctctca cttcacggtg gtctccgtgg gctatgggat ctccatcttt gtctatgttc    780
acccctcaca gaagagcagc ctgcacctca acaagatcct ctttatcctc tccagcatca    840
tcacacccct cctgaatccc ttcgtcttca gtctgtggaa tgaacccatg aaagatgcac    900
tgaaggacgc ctcggccgga ggacagagct tgctcaaagg                          940
```

<210> 650
<211> 927
<212> DNA
<213> Unknown (H38g499 nucleotide)

<220>
<223> Synthetic construct

<400> 650

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atggcaaatc tcacaatcgt gactgaattt atccttatgg ggttttctac caataaaaat     60
atgtgcattt tgcattcgat tctcttcttg ttgatttatt tgtgtgccct gatggggaat    120
gtcctcatta tcatgatcac aactttggac catcatctcc acacccccgt gtatttcttc    180
ttgaagaatc tatctttctt ggatctctgc cttatttcag tcacggctcc caaatctatc    240
gccaattctt tgatacacaa caactccatt tcattccttg gctgtgtttc ccaggtcttt    300
ttgttgcttt cttcagcatc tgcagagctg ctcctcctca cggtgatgtc ctttgaccgc    360
tatactgcta tatgtcaccc tctgcactat gatgtcatca tggacaggag cacctgtgtc    420
caaagagcca ctgtgtcttg gctgtatggg ggtctgattg ctgtgatgca cacagctggc    480
accttctcct tatcctactg tgggtccaac atggtccatc agttcttctg tgacattccc    540
cagttattag ctatttcttg ctcagaaaat ttaataagag aaattgcact catccttatt    600
aatgtagttt tggatttctg ctgttttatt gtcatcatca ttacctatgt ccacgtcttc    660
tctacagtca agaagatccc ttccacagaa ggccagtcaa aagcctactc tatttgcctt    720
ccacacttgc tggttgtgtt atttctttcc actggattca ttgcttatct gaagccagct    780
tcagagtctc cttctatttt ggatgctgta atttctgtgt tctacactat gctgccccca    840
acctttaatc ccattatata cagtttgaga aacaaggcca taaaggtggc tctggggatg    900
ttgataaagg gaaagctcac caaaaag                                        927
```

<210> 651

<211> 942
<212> DNA
<213> Unknown (H38g500 nucleotide)

<220>
<223> Synthetic construct

<400> 651
atgggggatg tgaatcagtc ggtggcctca gacttcattc tggtgggcct cttcagtcac 60
tcaggatcac gccagctcct cttctccctg gtggctgtca tgtttgtcat aggccttctg 120
ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac 180
ttcctgctca gccagctctc cctgtttgac attggctgtc ccatggtcac catccccaag 240
atggcatcag actttctgcg gggagaaggt gccacctcct atggaggtgg tgcagctcaa 300
atattcttcc tcacactgat gggtgtggct gagggcgtcc tgttggtcct catgtcttat 360
gaccgttatg ttgctgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta 420
tgtctgctga tgatgggctc ctcctgggtg gtaggtgtgc tcaacgcctc catccagacc 480
tccatcaccc tgcattttcc ctactgtgcc tcccgtattg tggatcactt cttctgtgag 540
gtgccagccc tactgaagct ctcctgtgca gatacctgtg cctacgagat ggcgctgtcc 600
acctcagggg tgctgatcct aatgctccct ctttccctca tcgccacctc ctacggccac 660
gtgttgcagg ctgttctaag catgcgctca gaggaggcca gacacaaggc tgtcaccacc 720
tgctcctcgc acatcacggt agtggggctc ttttatggtg ccgccgtgtt catgtacatg 780
gtgccttgcg cctaccacag tccacagcag gataacgtgg tttccctctt ctatagcctt 840
gtcaccccta cactcaaccc ccttatctac agtctgagga atccggaggt gtggatggct 900
ttggtcaaag tgcttagcag agctggactc aggcaaatgt gc 942

<210> 652
<211> 936
<212> DNA
<213> Unknown (H38g501 nucleotide)

<220>
<223> Synthetic construct

<400> 652
atggatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga 60
tgggaacttc aaatttctt ctttgtgaca ttttccctga tctacggtgc tactgtgatg 120
ggaaacattc tcattatggt cacagtgaca tgtaggtcaa ccccttcattc tcccttgtac 180
tttctccttg gaaatctctc tttttggac atgtgtctct ccactgccac aacacccaag 240
atgatcatag atttgctcac tgaccacaag accatctctg tgtggggctg cgtgacccag 300
atgttcttca tgcacttctt tggggtgct gagatgactc ttctgataat catggccttt 360
gacaggtatg tagccatatg taaacccctg cactatagga caatcatgag ccacaagctg 420
ctaaaggggt ttgcgatact ttcatggata attggttttt tacactccat aagccagata 480
gttttaacaa tgaacttgcc tttctgtggc cacaatgtca taaacaacat attttgtgat 540
cttcccttg tgatcaagct tgcttgcatt gaaacataca ccctggaatt atttgtcatt 600
gctgacagcg ggctgctctc tttcacctgt ttcatcctct tgcttgtttc ttacattgtc 660
atcctggtca gtgtaccaaa aaaatcatca catgggctct ccaaggcgct gtccacattg 720
tctgcccaca tcattgtggt cactctgttc tttggacctt gtatttttat ctatgtttgg 780
ccattcagta gtttggcaag caataaaact cttgccgtat tttatacagt tatcacaccc 840
ttactgaatc cgagtattta taccctgaga aataagaaaa tgcaagaggc cataagaaaa 900
ttacggttcc aatatgttag ttctgcacag aatttc 936

<210> 653
<211> 972
<212> DNA
<213> Unknown (H38g502 nucleotide)

<220>
<223> Synthetic construct

<400> 653
atgccaacag acaaacaaat ggaaaaacaa aatcagtcca tggtgcctga atttattttg 60

ttgggattca aaaatctcat gagctacaga ttttctttat cttatttttc cattctctac 120
atatccataa ttaagtaacc taatcattat ctttgtagtg aaactggatc ctcaattgca 180
ttctcccatg tacttcctac tggccaacct gtcatctact gatatgcccc tggcctcctt 240
tgctactcct aagaaaatcg ataatgtaat tagtgaatat aggaccatct cctatgaagg 300
ctgcatgaca tagagatttt tccttcactt tttaagtgga agtgagatgg ttttactctt 360
agccatggca atcgatagat aatttgccat atgcaaaccc ctccattaca agtccattgc 420
atcggacttg ctcctcgctc ctggactatg gatttcatgc acaccatgag ccaaattgtt 480
ctcacagtga ctttgccatt ctgtggtctc agtgttgtgg atatttttgt gtgtgtgtga 540
tctgccttgt gataaaactt gcctgtacag acacttacat cttggagcta tgagtcattg 600
cagacagtgg actactttct ttgctgtgtt tcatgtttct gttaatctcc tatagcaccg 660
tcctgattat tatttgacat cattcctcca ggggtcttc caaaactctg tccacgcttt 720
cagcccacat tatggtggtg gtactgttct ttggagcttg catctttacc tgtgaaagac 780
cattcagcac tgtctccatt gatgtctgtg ttttaaacta tttttgctcc ccttttaaat 840
ccaatcatct acacattcag gaataacgac atgaagaaag cattaagaaa aatgaagatt 900
aactttgtga gttctagatc aacttgataa ctaaaatatt ataatcacta aaagcatcat 960
cattattgtt gt 972

<210> 654
<211> 936
<212> DNA
<213> Unknown (H38g503 nucleotide)

<220>
<223> Synthetic construct

<400> 654
atggatgaag ccaatcactc tgtggtctct gagtttgtgt tcctgggact ctctgactcg 60
cggaagatcc agctcctcct cttcctcttt ttctcagtgt tctatgtgtc aagcctgatg 120
ggaaatctcc tcattgtgct aactgtgacc tctgaccctc gtttacagtc ccccatgtac 180
ttcctgctgg ccaacctttc catcatcaat ttggtatttt gttcctccac agctcccaag 240
atgatttatg accttttcag gaagcacaag accatctctt ttgggggctg tgtagttcag 300
atcttcttta tccatgcagt tgggggaact gagatggtgc tgctcatagc catggctttt 360
gaccgatatg tggccatatg taagcctctc cactacctga ccatcatgaa cccacaaagg 420
tgcattttgt ttttagtcat ttcctggatt ataggtatta ttcactcagt gattcagttg 480
gcttttgttg tagacctgct gttctgtggc cctaatgaat tagatagttt cttttgtgat 540
cttcctcgat ttatcaaact ggcttgcata gagacctaca cattgggatt catggttact 600
gccaatagtg gatttatttc tctggcttct tttttaattc tcataatctc ttacatcttt 660
attttggtga ctgttcagaa aaaatcttca ggtggtatat tcaaggcttt ctctatgctg 720
tcagctcatg tcattgtggt ggttttggtc tttgggccat taatcttttt ctatattttt 780
ccatttccca catcacatct tgataaattc cttgccatct ttgatgcagt tatcactccc 840
gttttgaatc cagtcatcta tacttttaga aataaagaga tgatggtggc aatgagaaga 900
cgatgctctc agtttgtgaa ttacagtaaa atcttt 936

<210> 655
<211> 967
<212> DNA
<213> Unknown (H38g504 nucleotide)

<220>
<223> Synthetic construct

<400> 655
atgaataggg acaaccagtc tgtggtgtct gaattcgtgt tgctgggact ctcaaattct 60
tgggagactc aagatttttc ttttttgctt ttcttgtctt ttctatgtgt ccggtgtgat 120
ggcaaacctc attgtagtgg tcattgtaac ctctgaccct tacttgcact cctccttgta 180
tattttgctg gccaacctct ctgtcattga tctcacattt tgctccattg cagcacgcaa 240
gatgatttgt gatattttca ggaaacagaa agtcatttcc ttttggggct gtgtagctca 300
gatcttcttt agccatgctg ttgggggcac tgagatggtg ctgctcatag ccatggcctt 360
tgacagatat gttgccgtat gtaagcccct tcactacctg accatcatgc atccaagaat 420
gtgcattttg attctagtgg cttcctgggc cattggtctc attcactcat tggtccaatt 480
gtcttttgta gtaaacttgc ccttctgtgg ccctaatgtg ttggacagct tttactgtga 540

catacctcag ctcatcaaac ttgcttgcac aaatacctat aaactgcagt tcatggttac 600
tgctaatagt gggttcattt ccttgagtgc tttcttcttg ctcatcctct cttacatctt 660
cattctggcc actcttcaga aacactcctc aggaggctca tccaaggctg tctctactct 720
gtcagctcat attactgttg tggttttatt ctttggtcca ctgatttttt tctatgtatg 780
gccctctcct ccaacacatc tgaataaatt tctagccata tttgatgcca ttttcactcc 840
ttttctgaat ccagtcatct acacattcag gaacagggaa atgaagattg caataaggag 900
agtgttcggt caatttatgg gttttagaaa aactacttaa gtggctttat taaaacacag 960
aatttcc 967

<210> 656
<211> 873
<212> DNA
<213> Unknown (H38g505 nucleotide)

<220>
<223> Synthetic construct

<400> 656
atggttgggg caaatcactc cgtggtgtca gagtttgtgt tcctgggact caccaattcc 60
tgggagatcc gacttctcct ccttgtgttc tcctccatgt tttacatggc cagtatgatg 120
ggaaactctc tcattttgct cactgtgact tctgaccctc acttgcactc ccccatgtat 180
tttctgttag ccaacctctc cttcattgac ctgggtgttt cctctgtcac ttctcccaaa 240
atgatttatg acctgttcag aaagcacgaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcat tggcggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagatatg tggccatatg taagcccctc cagtacctga ccattatgag cccaagaatg 420
tgcatgttct tcttagtggc tgcctgggtg accggcctta tccactctgt agttcaattg 480
gtttttgtag taaacttgcc cttctgtggt cctaatgtat cggacagctt ttactgtgac 540
cttcctcggt tcatcaaact tgcctgcaca gacagctacc gactggagtt catggttaca 600
gccaacagtg gattcatctc tctgggctcc ttcttcatac tgatcatttc ctatgtggtc 660
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tcagctcacg tcagtgtggt agttttgttc tttggtcctt tgatttttgt ctatacgtgg 780
ccatctccct ccacacacct ggataagttt ctggccatct ttgatgcagt tctcactcct 840
gttttaaatc ctatcatcta cacattcagg aat 873

<210> 657
<211> 936
<212> DNA
<213> Unknown (H38g506 nucleotide)

<220>
<223> Synthetic construct

<400> 657
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cgggagattc agcttctact ttttgttttc tctttgttgt tctactttgc gagcatgatg 120
ggaaaccttg tcattgtatt cactgtaacc atggatgctc atctgcactc ccccatgtat 180
ttcctcctgg ctaacctctc aatcattgat atggcatttt gctcaattac agcccctaag 240
atgatttgtg atattttcaa gaagcacaag gccatctcct ttcggggatg tattactcag 300
atcttcttta gccatgctct tgggggcact gagatggtgc tgctcatagc catggccttt 360
gacagataca tggccatatg taaacctctc cactacctga ccatcatgag cccaagaatg 420
tgtctatact ttttagccac ttcctctatc attggcctta tccactcatt ggtccaatta 480
gtttttgtgg tagatttacc tttttgtggt cctaatatct ttgacagttt ttactgtgat 540
ctccctcggc tcctcagact tgcctgtacc aacacccaag aactggagtt catggtcact 600
gtcaatagtg gactcatttc tgtgggctcc tttgtcttgc tggtaatttc ctacatcttc 660
attctgttca ctgtttggaa acattcttct ggtggtctag ccaaggccct ctctaccctg 720
tcagctcatg tcactgtggt catcttgttc tttgggccac tgatgttttt ctacacatgg 780
ccttctccca catcacacct ggataaatat cttgctattt ttgatgcatt tattactcct 840
tttctgaatc cagttatcta cacattcagg aacaaagaca tgaaagtggc aatgaggaga 900
ctgtgcagtc gtcttgcgca ttttacaaag atttg 936

<210> 658

<211> 980
<212> DNA
<213> Unknown (H38g507 nucleotide)

<220>
<223> Synthetic construct

<400> 658
atggagcaaa ggaaaaatgt gactgagttt gtccttgtgg ggctcactca gagcccccag 60
ggacagaaaa tattatttct tgtgttcttg ctcatctacg ttgtgacaat ggtaggcaac 120
atattcattg ttgtgactgt ggtggtcagc ccaactttgg atgccccatg tacttcttcc 180
ttggctactt atcatttatg gatgctgttc attctactac agttacccca aatatgatta 240
tagacttact ctatgagaag aaaaccattt cgttccaagc ttgattaccc agatttttat 300
aggacaccta tttgggggtg ctgagatttt actccttgtt gtcatggcct atgatggcta 360
cgtgaccatc tgcaaacccc tgcattattt gaccatcatg aaccaacggg tgtgcattct 420
actgctgctg ttggcctggg ctggaggttt cttgcatgct gtagttcaac ttctttttgt 480
ttacaacctt cccttctgtg gccccaatgt cattgaccat ttcatctgtg acatgtaccc 540
tttattaaaa cttgcctgca ctgacaccta tgttactggc ctcactgtgg ttgccaatga 600
tggggcaatc tgtgtggtca tctttatgct cttactcttc tcctatgggg tcattctgca 660
ctccctgaag aatcttagtc aggaagggag gcacaaagcc ttatccacct gtggctccca 720
tatcactgtg gtgatcctct tctttgtccc ttgtatttc atgtatgtga gacctccttt 780
gaccttaccc attgataaat ccttgactgt gttttacact gttatcacac ctatgttgaa 840
ccctctaatc tatactttaa gaaatgcaga gatgaaaaat gctatgaaga agctctggac 900
tagaaaaaga aaatgaggtg gcagacaaat gtatcatcta ttttcagtga agagttgctc 960
cctccaggaa agccatttgt 980

<210> 659
<211> 917
<212> DNA
<213> Unknown (H38g508 nucleotide)

<220>
<223> Synthetic construct

<400> 659
atgaatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga 60
tgggaacttc aaattttctt ctttgtgaca ttttccctga tctacggtgc tactgtggtg 120
ggaaacattc tcattatggt cacagtgaca tgtagttcga cccttcattc tcccttgtac 180
tttctccttg gaaatctctc tttttggac atgtgtctct ccactgccac aacacccaag 240
atgatcacaa gaccatctct gtgtggggct gcgtgaccca gaagttcttc atgcacttct 300
ttgggagtgc tgagatgact cttctgataa tcatggcctt tgacaggtat gtagccatat 360
gtaaacccct gcactatagg acaatcatga gccacaagct gctaaagggg tttgcgatac 420
tttcatggat aattggtttt ttacactcca taagccagat agttttaaca atgaacttgc 480
ctttctgtgg ccacaatgtc ataaacaaca tattttgtga tcttcccctt gtgatcaagc 540
ttgcttgcat tgaaacatac accctggaat tatttgtcat tgctgacagc gggctgctct 600
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aaaaatcatc acatgggctc tccaaggcgc tgtccacatt gtctgcccac atcattgtgg 720
tcactctgtt ctttggacct tgtattttta tctatgtttg gccattcagt agtttggcaa 780
gcaataaaac tcttgctgta ttttatacag ttatcacacc gttactgaat ccgagtattt 840
ataccctgag aaataagaaa atgcaagagg ccataagaaa attacggttc caatatgtta 900
gttctgcaca gaatttc 917

<210> 660
<211> 1008
<212> DNA
<213> Unknown (H38g509 nucleotide)

<220>
<223> Synthetic construct

<400> 660

tctacagacc cacagaatct aacagatgtc tctatattcc tcctcctaga acctcagagg 60
atccagaatg acagccggtc ctcgctgggc tgttcctgtc catgtgcctg gtcacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt 180
acatcttctt ctccaacctg tccttgcctg acatcggttt cacctccacc acggtcccca 240
agatgactgt ggacatccag tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgttcct gagtgtgatg 360
gcctatgacc ggtttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gctttctagt tttgttgtct ttttttttt ctctcagtct tttagacgtc 480
cagctgcgca acttgattgc cttacaaatg acctgcttca aggatgtgga aattcctaat 540
ttcttctgtg acccttctca actcccccat cttgcatgtt gtgacacctt caccaataac 600
ataatcctgt atttccctgc tgccatattt ggtttcttc ccatcttggg gacccttttc 660
tcttactata aaatcgtttt ctccattctg agggtttcat catctggtgg gaagtataag 720
gccttctcca cctgtgtgtc tcacctgtca gtggtttgct gattttatgg aacaggcgtt 780
ggagggtacc tcagttcaga tgtgtcatct tccccgagaa aggctgcagt ggcctcagtg 840
atgtacacgg tggtcacccc catgctgaac cccttcatct acagcctgag aaacagggat 900
attaaaagtg tcctgcggcg gccgcacagc agcacggtct aatcttgata tcttcttatc 960
tgttccattc cttttgtagt gtgggttaaa aaaggcagca aggtcaaa 1008

<210> 661
<211> 957
<212> DNA
<213> Unknown (H38g510 nucleotide)

<220>
<223> Synthetic construct

<400> 661
atgatggaaa tagccaatgt gagttctcca gaagtctttg tcctcctggg cttctccaca 60
cgaccctcac tagaaactgt cctcttcata gttgtcttga gtttttacat ggtatcgatc 120
ttgggcaatg gcatcatcat tctggtctcc catacagatg tgcacctcca cacacctatg 180
tacttctttc ttgccaacct ccccttcctg gacatgagct tcaccacgag cattgtccca 240
cagctcctgg ctaacctctg gggaccacag aaaaccataa gctatggagg gtgtgtggtc 300
cagttctata tctcccattg gctgggggca accgagtgtg tcctgctggc caccatgtcc 360
tatgaccgct acgctgccat ctgcaggcca ctccattaca ctgtcattat gcatccacag 420
ctttgccttg ggctagcttt ggcctcctgg ctgggggtc tgaccaccag catggtgggc 480
tccacgctca ccatgctcct accgctgtgt gggaacaatt gcatcgacca cttcttttgc 540
gagatgcccc tcattatgca actggcttgt gtggatacca gcctcaatga gatggagatg 600
tacctggcca gctttgtctt tgttgtcctg cctctggggc tcatcctggt ctcttacggc 660
cacattgccc gggccgtgtt gaagatcagg tcagcagaag ggcggagaaa ggcattcaac 720
acctgttctt cccacgtggc tgtggtgtct ctgttttacg ggagcatcat cttcatgtat 780
ctccagccag ccaagagcac ctcccatgag cagggcaagt tcatagctct gttctacacc 840
gtagtcactc ctgcgctgaa cccacttatt tacaccctga ggaacacgga ggtgaagagc 900
gccctccggc acatggtatt agagaactgc tgtggctctg caggcaagct ggcgcaa 957

<210> 662
<211> 912
<212> DNA
<213> Unknown (H38g511 nucleotide)

<220>
<223> Synthetic construct

<400> 662
atggaaagag caaaccattc agtggtatcg gaatttattt tgttgggact ttccaaatct 60
caaaatcttc agattttatt cttcttggga ttctctgtgg tcttcgtggg gattgtgtta 120
ggaaacctgc tcatcttggt gactgtgacc tttgattcgc tccttcacac accaatgtat 180
tttctgctta gcaacctctc ctgcattgat atgatcctgg cttcttttgc taccccctaag 240
atgattgtag atttcctccg agaacgtaag accatctcat ggtggggatg ttattcccag 300
atgttcttta tgcacctcct gggtgggagt gagatgatgt tgcttgtagc catggcaata 360
gacaggtatg ttgccatatg caaacccctc cattacatga ccatcatgag cccacgggtg 420
ctcactgggc tactgttatc ctcctatgca gttggatttg tgcactcatc tagtcaaatg 480

gctttcatgt tgactttgcc cttctgtggt cccaatgtta tagacagctt tttctgtgac 540
cttccccttg tgattaaact tgcctgcaag gacacctaca tcctacagct cctggtcatt 600
gctgacagtg ggctcctgtc actggtctgc ttcctcctct tgcttgtctc ctatggagtc 660
ataatattct cagttaggta ccgtgctgct agtcgatcct ctaaggcttt ctccactctc 720
tcagctcaca tcacagttgt gactctgttc tttgctccgt gtgtctttat ctacgtctgg 780
cccttcagca gatactcggt agataaaatt ctttctgtgt tttacacaat tttcacacct 840
ctcttaaatc ctattattta tacattaaga aatcaagagg taaaagcagc cattaaaaaa 900
agactctgca ta 912

<210> 663
<211> 963
<212> DNA
<213> Unknown (H38g512 nucleotide)

<220>
<223> Synthetic construct

<400> 663
atggtcaatt tgacttcaat gagtggattc cttcttatgg ggttttctga tgagcgtaag 60
cttcagattt tacatgcatt ggtatttctg gtgacatacc tgctggcctt gacaggcaac 120
ctcctcatta tcaccatcat taccgtggac cgtcgtctcc attcccccat gtattacttt 180
ttaaagcacc tctctcttct ggacctctgc ttcatctctg tcacagtccc ccagtccatt 240
gcaaattcac ttatgggcaa cggttacatt tctcttgttc agtgcattct tcaggttttc 300
ttcttcatag ctctggcctc atcagaagtg gccattctca cagtgatgtc ttatgacagg 360
tacgcagcaa tctgtcaacc acttcattat gagactatta tggatccccg tgcctgtagg 420
catgcagtga tagctgtgtg gattgctggg ggcctctctg ggctcatgca tgctgccatt 480
aacttctcca tacctctctg tgggaagaga gtcattcacc aattcttctg tgatgttcct 540
cagatgctga aactagcctg ttcttatgaa ttcattaatg agattgcact ggctgcattc 600
acaacgtctg cagcatttat ctgtttgatc tccattgtgc tctcctacat tcgcatcttc 660
tctacagtgc tgagaatccc atcagctgag ggccggacca aggtcttctc cacctgccta 720
ccacacctat ttgtagccac cttctttctt tcagctgcag gctttgagtt tctcagactg 780
ccttctgatt cctcatcgac tgtggacctt gtattctccg tattctatac tgtgatacct 840
ccaacactca atccagtcat ttatagctta cggaatgatt ccatgaaggc agcactgagg 900
aagatgctgt caaaggaaga gcttcctcag agaaaaatgt gcttaaaagc catgtttaaa 960
ctc 963

<210> 664
<211> 930
<212> DNA
<213> Unknown (H38g513 nucleotide)

<220>
<223> Synthetic construct

<400> 664
atggacccac agaactattc cttggtgtca gaatttgtgt tgcatggact ctgcacttca 60
cgacatcttc aaaatttttt ctttatattt ttctttgggg tctatgtggc cattatgctg 120
ggtaaccttc tcattttggt cactgtaatt tctgatccct gcctgcactc ctcccctatg 180
tacttcctgc tggggaacct agctttcctg gacatgtggc tggcctcatt tgccactccc 240
aagatgatca gggatttcct tagtgatcaa aaactcatct cctttggagg atgtatggct 300
caaatcttct tcttgcactt tactggtggg gctgagatgg tgctcctggt ttccatggcc 360
tatgacagat atgtggccat atgcaaaccc ttgcattaca tgactttgat gagttggcag 420
acttgcatca ggctggtgct ggcttcatgg gtcgttggat ttgtgcactc catcagtcaa 480
gtggctttca ctgtaaattt gccttactgt ggccccaatg aggtagacag cttcttctgt 540
gacctccctc tggtgatcaa acttgcctgc atggacacct atgtcttggg tataattatg 600
atctcagaca gtgggttgct ttccttgagc tgttttctgc tcctcctgat ctcctacacc 660
gtgatcctcc tcgctatcag acagcgtgct gccggtagca catccaaagc actctccact 720
tgctctgcac atatcatggt agtgacgctg ttctttggcc cttgcatttt tgtttatgtg 780
cggcctttca gtaggttctc tgtggacaag ctgctgtctg tgttttatac catttttact 840
ccactcctga accccattat ctacacattg agaaatgagg agatgaaagc agctatgaag 900
aaactgcaaa accgacgggt gacttttcaa 930

<210> 665
<211> 957
<212> DNA
<213> Unknown (H38g514 nucleotide)

<220>
<223> Synthetic construct

<400> 665
atggaaagaa agaatcaaac agctataact gaattcatca tcttgggatt ctccaaccta 60
aatgaattgc agtttttact attcaccatc ttctttctga cttatttctg tactttggga 120
ggaaatatat taattatctt gacgactgtg actgatccac acctgcatac acctatgtat 180
tattttctag ggaacttggc ctttattgac atctgctaca ccaccagcaa tgtcccccag 240
atgatggtgc acctcctctc aaagaaaaaa agcatttctt atgtggggtg tgtggttcaa 300
ctttttgcat ttgtttttctt tgtaggatca gagtgtctcc tactggcagc aatggcatat 360
gatcgttaca ttgcaatctg caatccttta aggtattcag ttattctgag caaggttcta 420
tgcaatcaat tagcagcctc atgctgggct gctggtttcc ttaactcagt ggtgcataca 480
gtgttgacat tctgcctgcc cttctgtggc aacaatcaga ttaattactt cttctgtgac 540
atcccccctt tgctgatctt gtcttgtgga aacacttctg tcaatgagtt ggcactgcta 600
tccactgggg tcttcattgg ttggactcct ttcctttgta tcgtactttc ctacatttgc 660
ataatctcca ccatcttgag gatccagtcc tcagagggaa gacgaaaagc cttttctaca 720
tgtgcctccc acctggccat tgtctttctc ttttatggca gcgccatctt tacatatgta 780
cggcccatct caacttactc attaaagaaa gataggttgg tttcagtgtt gtacagtgtt 840
gttacccccca tgctaaaccc tataatttac acattgagga ataaggacat caaagaagct 900
gtcaaaacta tagggagcaa gtggcagcca ccaatttcct ctttggatag taaactc 957

<210> 666
<211> 910
<212> DNA
<213> Unknown (H38g515 nucleotide)

<220>
<223> Synthetic construct

<400> 666
atgagagaat ttttcttgtc agggttctca cagacaccat ctattgaagc agggctattt 60
gtactatttc ttttcttcta tatgtccatt tgggttggca atgtcctcat catggtcaca 120
gtagcatctg ataaatacct gaattcatca cccatgtatt tccttcttgg caacctctca 180
tttctggacc tatgttattc aacagtaacg acccctaagc ttctggctga cttctttaat 240
catgaaaaac tcatttccta tgaccaatgc attgtgcaac tcttcttcct gcattttgta 300
ggggcagctg agatgttcct gctcacagtg atggcgtacg atcgctatgt tgcaatctgt 360
cgcccgctgc actacaccac tgtcatgagt cgggggttat gctgtgtgtt ggttgctgcc 420
tcctggatgg gaggatttgt gcactccact gtccagacca ttctcactgt ccatctaccc 480
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tgcttgtgct gacactttttg tcattgaatt gctcatggta tctaacagtg ggttgatctc 600
caccatctcc tttgtggtgc tgatttcctc ctacaccact atcctagtca agattcgctc 660
caaggaagga aggcgaaagg cactctccac gtgtgcctct cacctcatgg tggtaacact 720
gtttttgga ccctgtattt tcatctacgc tcgtcctttc tctacatttt ctgtggacaa 780
gatggtgtct gtactctaca atgttattac ccccaatgcta aacccctca tctacacact 840
tcggaacaaa gaggtaaagt cagccatgca gaagctctgg gtcagaaatg ggcttacttg 900
gaaaaagcag 910

<210> 667
<211> 945
<212> DNA
<213> Unknown (H38g516 nucleotide)

<220>
<223> Synthetic construct

<400> 667
atggagaatg tcactacaat gaatgagttt cttctacttg gcctgactgg tgttcaggag 60
ctgcagcctt tcttctttgg gattttctta atcatttacc tgataaactt gattggaaat 120
ggatctatat tggtgatggt tgttttggaa ccacaactcc actcccctat gtattttttt 180
ctgggaaacc tttcttgtct ggatatttct tattcttcag tgacactgcc caagctgctc 240
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ccgctcttag aattggcctg tagtgacaca ttactcaatc aatggcttct ttccattgtc 600
acaggcagca tatccatggg agctttcttt ctgactcttc tctcctgctt ctatgtaatt 660
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cctgcttcag ccacctccat gattcaggac cggataatgg ccatcatgta tagcgccgtc 840
acccctgtac tgaatccact aatctacacc cttaggaaca aagaagtgat gatggctctg 900
aagaaaatct ttggtaggaa gttgtttaaa gactggcagc aacac 945

<210> 668
<211> 966
<212> DNA
<213> Unknown (H38g517 nucleotide)

<220>
<223> Synthetic construct

<400> 668
atgaatgaga caaatcattc tcgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttaca ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac cccatgtac 180
tttctgcttg caaacctgtc atttatagac gtatgtgttg cctcttttgc taccctaaa 240
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attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctctc cactacatga cagtcatgag ccgtcgtgta 420
tgtgttgtgc tcgtcctcat ttcatggttt gtgggcttca tccatactac cagccagttg 480
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attttaaacc ctgtaatcta cacgctaaga aacaaagaag tgaaggcagc tatgtcaaaa 900
ctgaagagtc ggtatctgaa gcctagtcag gtttctgtag tcataagaaa tgttcttttc 960
ctagaa 966

<210> 669
<211> 594
<212> DNA
<213> Unknown (H38g518 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(594)
<223> n = A,T,C or G

<400> 669
gnncggctac tactacccat gtactgtttc ctgnctatac tgtccgccac tgacctcggc 60
ctgtccatat ccactctggt caccatgctg agtatattct ggttcaatgt gagggaaatc 120
agctttaatg cctgcttgtc ccacatgttc tttattaaat tcttcactgt catggaatcc 180

tcagtgctgt tggccatggc ttttgatcgt tttgtggccg tctctaatcc ccttaggtat 240
gccatgattt taactgactc cagaatagct caaattggag tggcaagtgt catcaggggg 300
ctcctaatgc tgacaccaat ggtagcactt cttataagac tttcctactg ccacagcccg 360
agtactccac cactcctact gctaccaccc tgatgtgatg aagttctcat gcacagacgc 420
cagaatcaac agtgcagttg ggctgactgc catgttctct actggttggt gtagacttac 480
ttctcatcct cctttcttat gttttgatca ttaggactgt ccttancgtt gcttccccag 540
aagagaggaa ggaaaccctt cagtacatgt gtctcccaca ttgggggctt ttgc 594

<210> 670
<211> 939
<212> DNA
<213> Unknown (H38g519 nucleotide)

<220>
<223> Synthetic construct

<400> 670
atgagccctg agaaccagag cagcgtgtcc gagttcctcc ttctgggcct ccccatccgg 60
ccagagcagc aggctgtgtt cttcaccctg ttcctgggca tgtacctgac cacggtgctg 120
gggaacctgc tcatcatgct gctcatccag ctggactctc accttcacac ccccatgtac 180
ttcttcctca gccacttggc tctcactgac atctcctttt catctgtcac tgtccctaag 240
atgctgatgg acatgcggac taagtacaaa tcgatcctct atgaggaatg catttctcag 300
atgtattttt ttatattttt tactgacctg gacagcttcc ttattacatc aatggcatat 360
gaccgatatg ttgccatatg tcaccctctc cactacactg tcatcatgag ggaagagctc 420
tgtgtcttct tagtggctgt atcttggatt ctgtcttgtg ccagctccct ctctcacacc 480
cttctcctga cccggctgtc tttctgtgct gcgaacacca tcccccatgt cttctgtgac 540
cttgctgccc tgctcaagct gtcctgctca gatatcttcc tcaatgagct ggtcatgttc 600
acagtagggg tggtggtcat taccctgcca ttcatgtgta tcctggtatc atatggctac 660
attggggcca ccatcctgag ggtcccttca accaaaggga tccacaaagc attgtccaca 720
tgtggctccc atctctctgt ggtgtctctc tattatgggt caatatttgg ccagtacctt 780
ttcccgactg taagcagttc tattgacaag gatgtcattg tggctctcat gtacacggtg 840
gtcacaccca tgttgaaccc ctttatctac agccttagga acagggacat gaaagaggcc 900
cttgggaaac tcttcagtag agcaacattt ttctcttgg 939

<210> 671
<211> 586
<212> DNA
<213> Unknown (H38g520 nucleotide)

<220>
<223> Synthetic construct

<400> 671
ckactactac tacctatgta ttttttctk kgcaacctgt cactgttaga tctctgcctt 60
ccttcaatcc ctgtgcccaa gatgctgcag aatttattaa ctcaaaggta aaccatctct 120
atgtggtact gcattgtcca gagtttcttt ctcatattct ctgggagcac agaagcctgc 180
ctactccttg ccatggcctg tgatcactct acttccaact gccaccctcg gctcaacgat 240
gtggttatga atcagcctgt ctgtgtcagg atggtgattg cagcatgggc agtgggattc 300
ctaaactcct tgacaaagaa tcttttcatt tacaacttac acttctgtgg ccccagtgtc 360
atccctcact tctgctgtga gctgccttca ctcttccctc tctcttgtat tgatccagct 420
gccagtgagg tccttcctgc tgggtcatgt acattgctag gatttgtgac ttgccgctgg 480
tcctcttttc ttactctaac accatctctg cctcctagcc atttgktttt ctgagggtca 540
aggcaaagcc ttctccacct gctcctccca cctcaccgtg gtgctt 586

<210> 672
<211> 918
<212> DNA
<213> Unknown (H38g521 nucleotide)

<220>
<223> Synthetic construct

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ttcctccgaa agctctcatt tctggacatg tgtttcacca cctgcattgt ccttcagatg     240
ctggtgaaca tctggggaga gagtaagaag gtcagctatg taggctgcat ggttcagtat     300
tctgtagcct tggctcttgg ctccacagag tgtgtgcttc ttgctatcat ggctgtggac     360
cgttatgttg ccgtccgctg gcccccttcac tatgttacaa tcatgcacca acagatctgc    420
cactttctcg cagccttgtc ctggttttct gggttagcca actctctctt tcactcttca     480
ctaaccacca ttttgcctct gtgtggccac cgccgtgtgg accatttctt tgtgaggtcc     540
tgctcattgt caagctgtcc tgcgtggaca ccggcccaac tgaattgaag atgttaattg     600
ctcgtgtgat catccttgcc cttccagtgt gcaccatcct cacctcctat gcctgcattg     660
ccagggctgt gctgaggctg cagtctgctg aaggtcagca gaaggccttt gggacttgtg     720
cctcccacct gatggtggtc ttgctgttct atggaaccat catgttcatg tgtcttcagc     780
tgaagagtaa ctactctcag attcagggaa agctgcttcc tcttgtttat accattgctg     840
cccccaccta gaacccacta atctatgcac tgaggaacaa agttgtaaag agggcaattg     900
gaaaattgat ctggaaggat tca                                             923
```

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<210> 452
<211> 951
<212> DNA
<213> Unknown (H38g301 nucleotide)

<220>
<223> Synthetic construct

<400> 452
atggaaatag ataaccagac gtgggtgaga gaatttattc tccttggctt atccagtgac      60
tggtgcactc agatatccct gttttccctg ttcttggtca catacctcat gacagtgctg     120
gggaactgtc tcattgtcct tctgatcaga ctggacagcc gactccacac tcccatgtat     180
ttctttctca ccaacctctc ccttgtcgat gtctcctatg ccacaagcgt agtcccccag     240
ctgctggcac atttcttgc agaacataaa gccatcccat tccagagctg tgcagcccag     300
ttatttttct ccctggcctt gggtgggatt gagtttgttc tcctggcagt gatggcctat     360
gaccgccatg tggctgtgtc tgaccgcctg cgatactcgg ccatcatgca tggagggctg     420
tgtgctaggt tggccatcac atcctgggtc agtggctcca tcaactctct tgtgcagact     480
gctatcacct ttcagctgcc catgtgcact aacaagttta ttgatcacat atcctgtgaa     540
ctcctagctg tggtcaggct ggcttgtgtg gacacctcct ccaatgaggc tgccatcatg     600
gtgtctagca ttgttcttct gatgacacct ttctgcctgg ttctgttgtc ctacatccgg     660
atcatctcca ccatcctaaa gatccagtcc agagaaggaa gaaagaaagc cttccacacg     720
tgtgcctctc acctcacggt ggttgccctg tgctacggca caacgatttt cacttacatc     780
cagccccact ctggtccctc agtccttcaa gagaagctga tctctgtctt ctatgccatt     840
gttatgcctc tgctgaaccc tgtgatttat agtctaagga ataaagaggt gaagggggcc     900
tggcataaac tattagagaa attctctggg ttaacatcca agctgggaac t              951

<210> 453
<211> 918
<212> DNA
<213> Unknown (H38g302 nucleotide)

<220>
<223> Synthetic construct

<400> 453
atggaaggga aaaatcaaac caatatctct gaatttctcc tcctgggctt ctcaagttgg      60
caacaacagc aggtgctact ctttgcactt ttcctgtgtc tctatttaac agggctgttt     120
ggaaacttac tcatcttgct ggccattggc tcggatcact gccttcacac acccatgtat     180
ttcttccttg ccaatctgtc cttggtagac ctctgccttc cctcagccac agtccccaag     240
atgctactga acatccaaac ccaaacccaa accatctcct atcccggctg cctggctcag     300
atgtatttct gtatgatgtt tgccaatatg gacaattttc ttctcacagt gatggcatat     360
gaccgttacg tggccatctg tcacccttta cattactcca ccattatggc cctgcgcctc     420
tgtgcctctc tggtagctgc accttgggtc attgccattt tgaaccctct cttgcacact     480
cttatgatgg cccatctgca cttctgctct gataatgtta tccaccattt cttctgtgat     540
atcaactctc tcctccctct gtcctgttcc gacaccagtc ttaatcagtt gagtgttctg     600
gctacggtgg ggctgatctt tgtggtacct tcagtgtgta tcctggtatc ctatatcctc     660
attgtttctg ctgtgatgaa agtcccttct gcccaaggaa aactcaaggc tttctctacc     720
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tgtggatctc accttgcctt ggtcattctt ttctatggag caaacacagg ggtctatatg 780
agccccttat ccaatcactc tactgaaaaa gactcagccg catcagtcat ttttatggtt 840
gtagcacctg tgttgaatcc attcatttac agtttaagaa acaatgaact gaaggggact 900
ttaaaaaaga ccctaagc 918

<210> 454
<211> 933
<212> DNA
<213> Unknown (H38g303 nucleotide)

<220>
<223> Synthetic construct

<400> 454
atgggaccca gaaaccaaac agctgtttca gaatttcttc tcatgaaagt gacagaggac 60
ccagaactga agttaatccc tttcagcctg ttcctgtcca tgtacctggt caccatcctg 120
gggaacctgc tcattctcct ggctgtcatc tctgactccc acctccacac ccccatgtac 180
ttccttctct ttaatctctc ctttactgac atctgtttaa ccacaaccac agtcccaaag 240
atcctagtga acatccaagc tcagaatcag agtatcactt acacaggctg cctcacccag 300
atctgtcttg tcttggtttt tgctggcttg gaaagttgct ttcttgcagt catggcctac 360
gaccgctatg tggccatttg ccacccactg aggtacacag tcctcatgaa tgtccatttc 420
tggggcttgc tgattcttct ctccatgttc atgagcacta tggatgccct ggttcagagt 480
ctgatggtat tgcagctgtc cttctgcaaa aacgttgaaa tccctttgtt cttctgtgaa 540
gtcgttcagg tcatcaagct cgcctgttct gacaccctca tcaacaacat cctcatatat 600
tttgcaagta gtgtatttgg tgcaattcct ctctctggaa taattttctc ttattctcaa 660
atagtcacct ctgttctgag aatgccatca gcaagaggaa agtataaagc gttttccacc 720
tgtggctgtc acctctctgt tttttccttg ttctatggga cagcttttgg ggtgtacatt 780
agttctgctg ttgctgagtc ttcccgaatt actgctgtgg cttcagtgat gtacactgtg 840
gtccctcaaa tgatgaaccc cttcatctac agcctgagaa ataaggagat gaagaaagct 900
ttgaggaaac ttattggtag gctgtttcct ttt 933

<210> 455
<211> 939
<212> DNA
<213> Unknown (H38g304 nucleotide)

<220>
<223> Synthetic construct

<400> 455
atggaagcga gaaaccaaac agctatttca aaattccttc tcctgggact gatagaggat 60
ccggaactgc agcccgtcct tttcagcctg ttcctgtcca tgtacttggt caccatcctg 120
gggaacctgc tcatcctctt ggctgtcatc tctgactctc acctccacac ccccatgtac 180
ttcttcctct ccaatctctc ctttttggac atttgtttaa gcacaaccac gatcccaaag 240
atgctggtga acatccaagc tcagaatcgg agcatcacgt actcaggctg cctcacccag 300
atctgctttg tcttgttttt tgctggcttg gaaaattgtc tccttgcagc aatggcctat 360
gaccgctatg tggccatttg tcacccccctt agatacacag tcatcatgaa cccccgcctc 420
tgtggcctgc tgattcttct ctctctgttg actagtgttg tgaatgccct tcttctcagc 480
ctgatggtgt tgaggctgtc cttctgcaca gacctggaaa tcccgctctt cttctgtgaa 540
ctggctcagg tcatccaact cacctgttca gacaccctca tcaataacat cctgatatat 600
tttgcagctt gcatatttgg tggtgttcct ctgtctggaa tcattttgtc ttacactcag 660
atcacctcct gtgttttgag aatgccatca gcaagtggaa agcacaaagc agtttccacc 720
tgtgggtctc acctctccat tgttctcttg ttctatgggg caggtttggg ggtgtacatt 780
agttctgtgg ttactgactc acctaggaag gctgcagtgg cttcagtgat gtattctgtg 840
ttccctcaaa tggtgaaccc ctttatctat agtctgagga ataaggacat gaaaggaacc 900
ttgaggaagt tcatagggag gataccttct cttctgtgg 939

<210> 456
<211> 939
<212> DNA
<213> Unknown (H38g305 nucleotide)

<220>
<223> Synthetic construct

<400> 456
atggaaccaa gaaaccaaac cagtgcatct caattcatcc tcctgggact ctcagaaaag 60
ccagagcagg agacgcttct cttttccctg ttcttctgca tgtacctggt catggtcgtg 120
gggaacctgc tcatcatcct ggccatcagc atagactccc acctccacac ccccatgtac 180
ttcttcctgg ccaacctgtc cctggttgat ttctgtctgg ccaccaacac catccctaag 240
atgctggtga gccttcaaac cgggagcaag gccatctctt atccctgctg cctgatccag 300
atgtacttct tccatttctt tggcatcgtg gacagcgtca taatcgccat gatggcttat 360
gaccggttcg tggccatctg ccacccattg cactacgcca agatcatgag cctacgcctc 420
tgtcgcctgc tggtcggcgc cctctgggcg ttttcctgct tcatctcact cactcacatc 480
ctcctgatgg cccgtctcgt tttctgcggc agccatgagg tgcctcacta cttctgcgac 540
ctcactccca tcctccgact ttcgtgcacg gacacctctg tgaataggat cttcatcctc 600
attgtggcag ggatggtgat agccacgccc tttgtctgca tcctggcctc ctatgctcgc 660
atccttgtgg ccatcatgaa ggtcccctct gcaggcggca ggaagaaagc cttctccacc 720
tgcagctccc acctgtctgt ggttgctctc ttctatggga ccaccattgg cgtctatctg 780
tgtccctcct cggtcctcac cactgtgaag gagaaagctt ctgcggtgat gtacacagca 840
gtcacccccca tgctgaatcc cttcatctac agcttgagga acagagacct gaaaggggct 900
ctcaggaagc tggtcaacag aaagatcacc tcatcttcc 939

<210> 457
<211> 295
<212> DNA
<213> Unknown (H38g306 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(295)
<223> n = A,T,C or G

<400> 457
atgtcagcct ccagtatcac ctcaacacat ccaacttcct tcttgttgat ggggattcca 60
ggcctggagc acctgcacat ctggatctcc atccccttct cagcatatac actggccctg 120
cttggaaact gcactctcct tctcatcatc caggctgatg cagccctcca tgaacccatg 180
tacctctttc tggccatgtt ggcagccatc gaccagctct ctatctcctc agcactgccc 240
ccgggacaga cggtgattct ggttcacgga tcngaagaat aaaccctttg ccggg 295

<210> 458
<211> 960
<212> DNA
<213> Unknown (H38g307 nucleotide)

<220>
<223> Synthetic construct

<400> 458
atgccatctg cctctgccat gatcattttc aacctgagca gttacaatcc aggacccttc 60
attctggtag ggatcccagg cctggagcaa ttccatgtgt ggattggaat tcccttctgt 120
atcatctaca ttgtagctgt tgtgggaaac tgcatccttc tctacctcat tgtggtggag 180
catagtcttc atgaacccat gttcttcttt ctctccatgc tggccatgac tgacctcatc 240
ttgtccacag ctggtgtgcc taaagcactc agtatctttt ggctaggggc tcgcgaaatc 300
acattcccag gatgccttac acaaatgttc ttccttcact ataactttgt cctggattca 360
gccattctga tggccatggc atttgatcac tatgtagcta tctgttctcc cttgagatat 420
accaccatct tgactcccaa gaccatcatc aagagtgcta tgggcatctc ctttcgaagc 480
ttctgcatca tcctgccaga tgtattcttg ctgacatgcc tgcctttctg caggacacgc 540
atcatacccc acacatactg tgagcatata ggtgttgccc agctcgcctg tgctgatatc 600
tccatcaact tctggtatgg cttttgtgtt cccatcatga cggtcatctc agatgtgatt 660

ctcattgctg tttcctacgc acacatcctc tgtgctgtct ttggccttcc ctcccaagag 720
gcctgccaga aagccctcgg cacttgtggt tctcatgtct gtgtcatcct catgttttat 780
acacctgcct ttttctccat cctcgcccat cgctttggac acaatgtctc tcgcaccttc 840
cacatcatgt ttgccaatct ctacattgtt atcccacctg cactcaaccc catggtttac 900
ggagtgaaga ccaagcagat cagagataag gttatacttt tgttttctaa gggtacagga 960

<210> 459
<211> 936
<212> DNA
<213> Unknown (H38g308 nucleotide)

<220>
<223> Synthetic construct

<400> 459
atgagcggga caaaccagtc gagtgtctcc gagttcctcc tcctgggact ctccaggcag 60
ccccagcagc agcatctcct ctttgtgttc ttcctcagca tgtacctggc cactgtcctg 120
gggaacctgc tcatcatcct gtccgtaagc atagactcct gcctgcacac cccccatgtac 180
ttcttcctca gcaacctgtc ttttgtggac atctgcttct ccttcaccac cgtccccaag 240
atgctggcca atcacatact cgagactcag accatctcct tctgtggctg tctcacacag 300
atgtatttcg ttttcatgtt cgtggacatg gacaatttcc tcctagctgt gatggcctat 360
gaccactttg tcgccgtgtg ccacccctta cattacacag caaagatgac ccatcagctc 420
tgtgccctgc tggttgctgg attatgggtg gttgccaacc tgaatgtcct tctgcacacc 480
ctgctgatgg ctccactctc attctgtgca gacaatgcca tcactcactt cttctgcgat 540
gtgactcccc tactgaaact ctcctgctca gacacacacc tcaatgaggt cataatcctt 600
agtgagggtg ccctggtcat gatcaccccca tttctttgca tcctggcttc ttatatgcac 660
atcacctgca ctgtcctgaa ggtcccatcc acaaagggaa ggtggaaagc cttctccacc 720
tgtggttctc acctggctgt ggttctcctc ttctacagca ccatcattgc tgtgtatttt 780
aaccctctgt cctcccactc agctgagaaa gacactatgg ctactgtgtt gtatacagta 840
gtgactccca tgctaaaccc tttcatctac agcctgagga acaggtactt gaaaggggct 900
ctgaaaaaag tagttggcag ggtggtgttt tctgtc 936

<210> 460
<211> 762
<212> DNA
<213> Unknown (H38g309 nucleotide)

<220>
<223> Synthetic construct

<400> 460
atgtacttct tcctgcgcca actctcagtg gtggagctct tctacaccac tgacatcgtg 60
cccaggaccc tggccaatct gggctccccg catccccagg ccatctcttt ccagggctgt 120
gcagcccata tgtacgtctt cattgtcctg ggcatctcgg agtgctgcct gctcactgcc 180
atggcctatg accgatatgt tgccatctgc cagcccctac gctattccac cctcttgagc 240
ccacgggcct gcatggccat ggtgggtacc tcctggctca caggcatcat cacggccacc 300
acccatgcct ccctcatctt ctctctacct tttcgcagcc acccgatcat cccgcacttt 360
ctctgtgaca tcctgccagt actgaggctg gcaagtgctg ggaagcacag gagcgagatc 420
tccgtgatga cagccaccat agtcttcatt atgatcccct tctctctgat tgtcacctct 480
tacatccgca tcctgggtgc catcctagca atggcctcca cccagagccg ccgcaaggtc 540
ttctccacct gctcctccca tctgctcgtg gtctctctct tctttggaac agccagcatc 600
acctacatcc ggccgcaggc aggctcctct gttaccacag accgcgtcct cagtctcttc 660
tacacagtca tcacacccat gctcaacccc atcatctaca cccttcggaa caaggacgtg 720
aggagggccc tgcgacactt ggtgaagagg cagcgccccct ca 762

<210> 461
<211> 998
<212> DNA
<213> Unknown (H38g310 nucleotide)

<220>

<223> Synthetic construct

<400> 461
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc cccatgtac 180
tttctactgg tcagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcat tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagttatg tggccctatt aagcccctcc actatctgac cattatgagc ccaagaatgt 420
gcctttcatt tctggctgtt gcctggaccc ttgttgtcag tcactccctg ttccaactgg 480
catttcttgt taatttaccc ttctgtggcc ctaatgtgtt ggacagcttc tactgtgacc 540
ttcctcagct tctcagacta gcctgtaccg acacctacag attgcagttc atggtcactg 600
ttaacagtgg gtttatctgt gtgggtactt tcttcatact tctaatctcc tacgtcttca 660
tcctgtttac tgtttggaaa cattcctcag gtggttcatc caaggccctt tccactcttt 720
cagctcacag cacagcggtc cttttgttct ttggtccacc catgtttgtg tatacatggc 780
cacaccctaa ttcacagatg gacaagtttc tggctatttt tgatgcagtt ctcactcctt 840
ttctgaatcc agttgtctat acattcagga ataaggagat gaaggcagca ataaagagag 900
tatgcaaaca gctagtgatt tacaagaaga tctcataaat gatacaataa gcccttctcg 960
ttaaacatga tatggcttta tgtttctttc tttgatat 998

<210> 462
<211> 933
<212> DNA
<213> Unknown (H38g311 nucleotide)

<220>
<223> Synthetic construct

<400> 462
atggaagagt acaacacatc ctctacagac ttcactttca tggggctgtt caacagaaag 60
gaaacctcag gtcttatttt tgccatcatc tctatcatct tcttcaccgc actgatggcc 120
aatggggtta tgatcttcct gatccaaaca gatttgcgcc ttcatacacc catgtacttc 180
ctcctcagcc acctttcctt aattgacatg atgtatattt ccactattgt gcctaagatg 240
ctggttaatt acctgctgga tcaaaggacc atttcctttg tggggtgcac agctcaacac 300
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tggatgatta tagcaggttc ctggtttggg ggctctttgg atggcttcct cctaaccccc 480
atcaccatga gctttccctt ctgcaattcc cgggagatta accacttctt ctgcgaggca 540
ccagcagtcc tgaagttggc atgtgcagac acagccctct acgagacagt gatgtatgtg 600
tgctgtgttt tgatgctgct gattcctttc tctgtagtcc ttgcttccta tgcccgaatc 660
ctgactacag ttcagtgcat gagctcagtg gagggcagga agaaggcatt tgccacttgc 720
tcatcccaca tgactgtggt gtccttgttc tacggggctg ccatgtacac ctacatgctg 780
ccacattctt accacaagcc agcccaggac aaagtcctct ctgtgtttta caccattctc 840
acacccatgc tgaacccccct catctacagc cttagaaaca aggatgtgac tggagctctg 900
aagagggcct tggggaggtt caagggtcct caa 933

<210> 463
<211> 883
<212> DNA
<213> Unknown (H38g312 nucleotide)

<220>
<223> Synthetic construct

<400> 463
atccaatgca agggctaata gaagtgaatt aagacattct ctgtaactcc aatattaaat 60
ggaaaccggg aaatagccag attcctctcc aacctgtcct tggctggcat cggtttcccc 120
tccaccatag tctccaagat gattgtggac atccagtctc acagcagagt catctcctat 180
gcgggctgcc tgactcaggt atctcttttt gccgtttttg gatgcatgga agacatgctt 240
ctgagtgtga tggcttatga ccggtttgtg gacatctgtc accctctgga ttatccagtc 300

atcatgaacc catgtttctg tggcttccta gttttgttgt ctttttttct cagtctttta 360
gactcccagc tgcacaattg gattgcctta caaattacct gcttcaagga tgtggaaatt 420
cccaatttct tctgtgaccc ttctcaactc ccccaccctt gcctgttgtg acaccttcac 480
caatgacata gtcatgtatt tccttgctgc catatttggt tttcttccca tttcggggcc 540
ttttctctta ctataaaatt gtttcctcca ttctgagggt ttcatcatca ggtgggaagt 600
ataaagcctt ctccacctgt ggctctcacc tgtcagttgt ttgcttattt tatggaacag 660
gctttggagg ggacctcagt tcagacatgt cctcttatcc cagaaaaggt gcagtggcct 720
cagtgatgta cacggtggtt actcccatgc tgaacccatt catttacagc ctaacaggga 780
aattaaaagt gccctgcggc agctgcactg cagaatagtc taatctcatt ttcttattat 840
ctgttccatt ccttccgtag tgtgagttag aaaaggcagc aag 883

<210> 464
<211> 942
<212> DNA
<213> Unknown (H38g313 nucleotide)

<220>
<223> Synthetic construct

<400> 464
atgaccctgg gatccctggg aaacagcagc agcagcgttt ctgctacctt cctgctgagt 60
ggcatccctg ggctggagcg catgcacatc tggatctcca tcccactgtg cttcatgtat 120
ctggtttcca tcccgggcaa ctgcacaatt ctttttatca ttaaaacaga gcgctcactt 180
catgaaccta tgtatctctt cctgtccatg ctggctctga ttgacctggg tctctccctt 240
tgcactctcc ctacagtcct gggcatcttt tgggttggag cacgagaaat tagccatgat 300
gcctgctttg ctcagctctt tttcattcac tgcttctcct tcctcgagtc ctctgtgcta 360
ctgtctatgg cctttgaccg ctttgtggct atctgccacc ccttgcacta tgtttccatt 420
ctcaccaaca cagtcattgg caggattggc ctggtctctc tgggtcgtag tgtagcactc 480
atttttccat taccttttat gctcaaaaga ttcccctatt gtggctcccc agttctctca 540
cattcttatt gtctccacca agaagtgatg aaattggcct gtgccgacat gaaggccaac 600
agcatctacg gcatgtttgt catcgtctct acagtgggta tagactcact gctcatcctc 660
ttctcttatg ctctgatcct gcgcaccgtg ctgtccatcg cctccagggc tgagagattc 720
aaggccctta acacctgtgt ttcccacatc tgtgctgtgc tgctcttcta cactcccatg 780
attggcctct ctgtcatcca tcgctttgga aagcaggcac cccacctggt ccaggtggtc 840
atgggtttca tgtatcttct ctttcctcct gtgatgaatc ccattgtcta cagtgtgaag 900
accaaacaga tccgggatcg agtgacgcat gccttttgtt ac 942

<210> 465
<211> 990
<212> DNA
<213> Unknown (H38g314 nucleotide)

<220>
<223> Synthetic construct

<400> 465
atgggactct tcagacaatc caaacatcca atggccaata tcacctggat ggccaaccac 60
actggatggt cggatttcat cctgttggga ctcttcagac aatccaaaca tccagcacta 120
ctttgtgtgg tcatttttgt ggttttcctg atggcgttgt ctggaaatgc tgtcctgatc 180
cttctgatac actgtgacgc ccacctccac acccccatgt actttttcat cagtcaattg 240
tctctcatgg acatggcgta catttctgtc actgtgccca agatgctcct ggaccaggtc 300
atgggtgtga ataagatctc agcccctgag tgtgggatgc agatgttctt ctacgtgaca 360
ctagcaggtt cagaattttt ccttctagcc accatggcct atgaccgcta cgtggccatc 420
tgccatcctc tccgttaccc tgtcctcatg aaccataggg tgtgtctctt cctgtcatca 480
ggctgctggt tcctgggctc agtggatggc ttcacattca ctcccatcac catgaccttc 540
cccttccgtg gatcccggga gattcatcat ttcttctgtg aagttcctgc tgtattgaat 600
ctctcctgct cagacacctc actctatgag attttcatgt acttgtgctg tgtcctcatg 660
ctcctcatcc ctgtggtgat catttcaagc tcctatttac tcatcctcct caccatccac 720
gggatgaact cagcagaggg ccggaaaaag gcctttgcca cctgctcctc ccacctgact 780
gtggtcatcc tcttctatgg ggctgccatc tacacctaca tgctccccag ctcctaccac 840
acccctgaga aggacatgat ggtatctgtc ttctatacca tcctcactcc agtggtgaac 900

ccttaatct atagtcttag gaataaggat gtcatggggg ctctgaagaa aatgttaaca 960
gtggaacctg cctttcaaaa agctatggag 990

<210> 466
<211> 591
<212> DNA
<213> Unknown (H38g315 nucleotide)

<220>
<223> Synthetic construct

<400> 466
gctgccatgg cttaagaccg gtacatagca atctgtaacc cgctgctcta tacagtgatt 60
atgtccaaga aggtttgttg ccagcttgca attggagcat tttggggggg cactatgagc 120
tcaattattc ataccacgaa cactttccat ctgtcattct gctccagaga tattaaccat 180
ttcttttgtg atatctcccc actcttctct ctgtcctgca ctgacacata catgcatgac 240
atcattctgg tggtctttgc cagttttgtg gaagcaatct gtcttctatc agttctcctt 300
tcttatgtct tcattatggc agctattctt agaacaggtt ctgtggaggg aagaagaaga 360
gggttctcca cttgtgcttc ccacctgact gtggtcacta tgtatcatgg taccttgatc 420
ttcatttatt tgcgtcccag cactggccat tcactggata ttgacaaagt gacctctgtg 480
ttctatactt tgattatacc tatgttgaac cctctaattt acagtctaag gaacaaagat 540
gtcaaaaatg cttttagaaa agtgattggc cgaaaattac ttccttaagg t 591

<210> 467
<211> 938
<212> DNA
<213> Unknown (H38g316 nucleotide)

<220>
<223> Synthetic construct

<400> 467
atgatgactc ttaagaactg cactgtgttt actgacttta tattcttagg actttcaggt 60
acacaggata tacagcaggg gctctttgtg cttttcttcc tgatttatgg cataactgtg 120
attgtcaatc tagggatgat cctactgatc aagatggatc tcagacttca cacacccgtg 180
tattatttcc tgagcaattt gtctttctgt gatgtctgct actcttccac gtctctccca 240
aatgctagct gatttcttat cggaccaaaa gtggattccg tataatttat gtgccattca 300
gatgtattta tttggagtct ttgcagatgt ggaatgtctc atgttggctg tcatggccta 360
tgatcgttat gttgccattt gcaatccact tctttatacg atcactatgc ccaggaggat 420
ctgcacccag ctagtggctc ttgcctatgt tgtaggtttg gtggattctg caatccacac 480
ctgctgcaca ttcagattgt cattctgcaa ttctaatgtc atcaatcact tttctgtga 540
catcccaccc ttgctagccc tcaatcctac tattaattgc tattaatgag atagtgatgt 600
tcacattcgt tggctgtgtt gcggggtgca gcattgtcac tgtcttcctc tcctacagct 660
acatcataat taccatcctt aaaatgagct cagctgaggg cagacggaaa gccttctcta 720
cctgcacctc ccacttgatg gccgtggctg tatttcatgg cacactcctg ttcatgtatt 780
tccgacccag ttcaagttac tcaatggaaa cagacaaaat ggcctctgtt ttctacacag 840
ttgtcatacc tatgttaaat ccactgatct acagcttaag gaatagggat gtgaaaggtg 900
ctctgaaaaa agcaataagc actaaattat attctgta 938

<210> 468
<211> 969
<212> DNA
<213> Unknown (H38g317 nucleotide)

<220>
<223> Synthetic construct

<400> 468
atgtcaacat taccaactca gatagccccc aatagcagca cttcaatggc ccccaccttc 60
ttgctggtgg gcatgccagg cctatcaggt gcaccctcct ggtggacatt gcccctcatt 120
gctgtctacc ttctctctgc actgggaaat ggcaccatcc tctggatcat tgccctgcag 180

cccgccctgc accgcccaat gcacttcttc ctcttcttgc ttagtgtgtc tgatattgga 240
ttggtcactg ccctgatgcc cacactgctg ggcatcgccc ttgctggtgc tcacactgtc 300
cctgcctcag cctgccttct acagatggtt tttatccatg tcttttctgt catggagtcc 360
tctgtcttgc tcgccatgtc cattgatcgg gcactggcca tctgccgacc tctccactac 420
ccagcgctcc tcaccaatgg tgtaattagc aaaatcagcc tggccatttc ttttcgatgc 480
ctgggtctcc atctgcccct gccattcctg ctggcctaca tgccctactg cctcccacag 540
gtcctaaccc attcttattg cttgcatcca gatgtggctc gtttggcctg cccagaagct 600
tggggtgcag cctacagcct atttgtggtt ctttcagcca tgggtttgga ccccctgctt 660
attttcttct cctatggcct gattggcaag gtgttgcaag gtgtggagtc cagagaggat 720
cgctggaagg ctggtcaaac ctgtgctgcc cacctctctg cagtgctcct cttctatatc 780
cctatgatcc tcctggcact gattaaccat cctgagctgc caatcactca gcatacccat 840
actcttctat cctatgtcca tttccttctt cctccattga taaaccctat tctctatagt 900
gtcaagatga aggagattag aaagagaata ctcaacaggt tgcagcccag gaaggtgggt 960
ggtgctcag 969

<210> 469
<211> 384
<212> DNA
<213> Unknown (H38g318 nucleotide)

<220>
<223> Synthetic construct

<400> 469
tctcgctcag atacacaggt caatgagtta gtgttattca ccgtctttgg ttttattgaa 60
ctgagtacca tttcaggagt tttcatttct tattgttata tcatcctatc agtcttggag 120
atacactctg ctgaggggag gttcaaagct ctctctacat gcacttccca cttatctgcg 180
gttgcaattt tccagggaac tctgctcttt atgtatttcc ggccaagttc ttcctattct 240
ctagatcaag ataaaatgac ctcattgttt tacacccttg tggttcccat gttgaacccc 300
ctgatttata gcctgaggaa caaggatgtg aaagaggccc tgaaaaaact gaaaaataaa 360
attttatttt aaggaaatag taaa 384

<210> 470
<211> 946
<212> DNA
<213> Unknown (H38g319 nucleotide)

<220>
<223> Synthetic construct

<400> 470
atgtttctgc tcaatacctc agaagttgaa gtctccacat tcctattgat tgggatacca 60
ggacttgagc atgcacacat ttggatctct atccccatct gccttatgta cctcatggcc 120
atcctgggca actgcaccat cctatttgtt atcagaacag agcattccct gcaagagccc 180
atgtactatt tcctctccat gctggccctg tccgacctgg gcctgtcttt ctcctcccta 240
cccacgatgc tgagaatctt cttgttcaac aacatgggga tttctgctga tacatgcatt 300
gcccaggaat tcttcatcca tggattcaca gacatggagt cttcagttct cctaatcatg 360
tcctttgatc acttagtagc catttgcaac cccctaagat atagctctat tctcaccagc 420
ttcagggttt tgcaaattgg actggctttt gccattaaaa gcattctcct agtgctaccc 480
cttttacttt aaagagactc agatactgta ataaacacct tttatcccac tcctactgcc 540
ttcaccagga tgtaatgaag ctggcctgct ctgacaacag ggttaacttt tactatggtt 600
tgttcgttgc actctgcatg atgtcagaca gtgtttttat tgctatttcc tatatgtgtt 660
catcctgaag actgtgttgg gtattgcatc ccatggggag tgcctcgaag ctcttgacac 720
ctgtgtgtct catatctgtg ctgtactcgt cttctatgtg cccatcatca ccttggctac 780
catgcgtcgc tttgctaagc ataaatcccc tttagctatg attctgatag cagatgcatt 840
cttgctggta ccacccttga tgaatcccat tgtgtattgt gtaaaaactc ggcagattag 900
agtaaaggtc ctggaaaaat tggctctgaa gcctaaatga tggggc 946

<210> 471
<211> 942
<212> DNA

<213> Unknown (H38g320 nucleotide)

<220>
<223> Synthetic construct

<400> 471
atgatggcat ctgaaagaaa tcaaagcagc acacccactt ttattctctt gggtttttca 60
gaatacccag aaatccaggt tccactcttt ctggttttct tgttcgtcta cacagtcact 120
gtagtgggga acttgggcat gataataatc atcagactca attcaaaact ccatacaatc 180
atgtgctttt tccttagtca cttgtccttg acagacttct gtttttccac tgtagttaca 240
cctaaactgt tggagaactt ggttgtggaa tacagaacca tctctttctc tggttgcatc 300
atgcaatttt gttttgcttg cattttttgga gtgacagaaa ctttcatgtt agcagcgatg 360
gcttatgacc gttttgtggc agtttgtaaa cccttgctgt ataccactat tatgtctcag 420
aagctctgtg ctcttctggt ggctgggtcc tatacatggg ggatagtgtg ctccctgata 480
ctcacatatt ttcttcttga cttatcgttt tgtgaatcta ccttcataaa taattttatc 540
tgtgaccact ctgtaattgt ttctgcctcc tactcagacc cctatatcag ccagaggcta 600
tgctttatta ttgccatatt caatgaggtg agcagcctaa ttatcattct gacatcatat 660
atgcttattt tcactaccat tatgaagatg cgatctgcaa gtgggcgcca gaaaactttc 720
tccacctgtg cctcccacct gacagccatc actatcttcc atggaactat ccttttcctt 780
tactgtgttc ctaatcctaa aacttctagc ctcatagtta cagtggcttc tgtgttttac 840
acagtggcga ttccaatgct gaacccattg atctacagcc ttaggaacaa agatatcaat 900
aacatgtttg aaaaattagt tgtcaccaaa ttgatttacc ac 942

<210> 472
<211> 965
<212> DNA
<213> Unknown (H38g321 nucleotide)

<220>
<223> Synthetic construct

<400> 472
cacacagagc cacggaatca cacaggggtc tgagaatttc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctgtccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtccgct ctgactcccc cctccacaac 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggtttcac ctcggccacg 240
gttgccaaga tgattgtgga atgcagtcgc atagcagagt catctctcat gcgggctgcc 300
tgacgcagat gtctttcttg gtcctttttg catgtataga aggcatgctc ctgactgtga 360
tggcctatga ctgctttgta gccatctgtc gtcctctgca ctacccagtc atcgtgaatc 420
ctcacctctg tgtcttcttc gttttggtgt ccttttttcct tagcctgttg gattcccagc 480
tgcacagttc gattgtgtta caattcacca tcatcaagaa tgtggaaatc tctcattttg 540
tctgtgaccc ctctcatctt ctcaaacttg cctgttctga cagcgtcatc aatagcatat 600
tcatatattt cgatagtact atgtttggtt ttcttcccat ttcagggatc ctttggtctt 660
actataaaat cgtcccctcc attctaagga tttcatcatc agatgggaag tataaagcct 720
tcgccacctg tggctctcac ctagcagttg tttgctgatt tgatggaaca ggcattggta 780
tgtacctgac ttcagctgtg gcaccacccc ctaggaatgg agtggtggca tcagtgatgt 840
aggctgtggt cacccccatg ctgaaccttt tcatctacag cctgagaaac agggacatac 900
aaagtgccct gcggaggctg ctcagcagaa cagtcgaatt tcatgatctg tttcattctt 960
tttct 965

<210> 473
<211> 990
<212> DNA
<213> Unknown (H38g322 nucleotide)

<220>
<223> Synthetic construct

<400> 473
atgtcggtcc tcaataatac cattgctgag cctctgatct tcctcctgat gggcattcca 60
ggcctgaaag ccacccagta ctggatctcc atcccttttt gtctcctata tgttgttgcc 120

gtctctggaa atagcatgat cctgtttgtg gtcctctgtg aacggagcct ccataagcct 180
atgtactatt tcctctctat gctttcagcc acagacctga gcttgtccct gtgtacactt 240
tctactaccc ttggtgtctt ctggtttgaa gcccgagaaa tcaacctaaa tgcctgcatt 300
gcccagatgt tctttctaca cggatttact ttcatggagt ctggggttct actggccatg 360
gcctttgatc gttttgtggc catctgttac ccactgagat acactaccat ccttaccaat 420
gcccgaattg ccaagattgg gatgagcatg ttgataagaa atgttgccgt catgttgcca 480
gtcatgctct ttgtcaagag gttgtccttc tgcagttcta tggtcctttc acattcttac 540
tgctaccatg ttgatctcat ccaactctcc tgcacagaca ataggatcaa cagcatcctt 600
ggtctgtttg cgcttttgtc cactacaggg tttgactgcc cttgcatcct gctctcctat 660
atcctgatca ttcgatctgt cctcagcatt gcttcctcag aagagaggcg gaaagccttc 720
aacacctgca catcccacat cagtgctgtt tccatcttct acctccctct catcagtttg 780
tctcttgtcc atcgctatgg ccattcagca cctccatttg tccacatcat catggccaat 840
gtctttctgc taatccctcc tgtgctcaac cctattattt acagtgtaaa gattaagcag 900
attcaaaagg ccattatcaa ggtcttaatt cagaagcact ccaaatctaa tcatcagcta 960
tttctgatta gagataaagc catttatgaa 990

<210> 474
<211> 942
<212> DNA
<213> Unknown (H38g323 nucleotide)

<220>
<223> Synthetic construct

<400> 474
atgatgatgg ttttaaggaa tctgagcatg gagcccacct ttgccctttt aggtttcaca 60
gattacccaa agcttcagat tcctctcttc cttgtgtttc tgctcatgta tgttatcaca 120
gtggtaggaa accttgggat gatcataata atcaagatta accccaaatt tcacactcct 180
atgtactttt tccttagtca cctctctttt gttgattttt gttactcttc cattgtcact 240
cccaagctgc ttgagaactt ggtaatggca gataaaagca tcttctactt tagctgcatg 300
atgcagtact tcctgtcctg cactgctgtg gtgacagagt ctttcttgct ggcagtgatg 360
gcctatgacc gctttgtggc catctgcaat cctctgcttt atacagtggc catgtcacag 420
aggctctgtg ccctgctggt ggctgggtca tatctctggg gcatgtttgg ccccttggta 480
ctcctttgtt atgctctccg gttaaacttc tctggaccta atgtaatcaa ccacttcttt 540
tgtgagtata ctgctctcat ctctgtgtct ggctctgata tactcatccc ccacctgctg 600
cttttcagct tcgccacctt caatgagatg tgtacactac tgatcatcct cacttcctat 660
gttttcattt ttgtgactgt actaaaaatc cgttctgtta gtgggcgcca caaagccttc 720
tccacctggg cctcccacct gactgctatc accatcttcc atgggaccat ccttttcctt 780
tactgtgtac ccaactccaa aaactctcgg caaacagtca aagtggcctc tgtattttac 840
acagttgtca accccatgct gaaccctccg atctacagcc taaggaataa agacgtgaag 900
gatgctttct ggaagttaat acatacacaa gttccatttc ac 942

<210> 475
<211> 942
<212> DNA
<213> Unknown (H38g324 nucleotide)

<220>
<223> Synthetic construct

<400> 475
atggtgctgg cttcagggaa cagctcttct catcctgtgt ccttcatcct gcttggaatc 60
ccaggcctgg agagtttcca gttgtggatt gcctttccgt tctgtgccac gtatgctgtg 120
gctgttgttg gaaatatcac tctcctccat gtaatcagaa ttgaccacac cctgcatgag 180
cccatgtacc tctttctggc catgctggcc atcactgacc tggtcctctc ctcctccact 240
caacctaaga tgttggccat attctggttt catgctcatg agattcagta ccatgcctgc 300
ctcatccagg tgttcttcat ccatgccttt tcttctgtgg agtctggggt gctcatggct 360
atggccctgg actgctacgt ggctacctgc ttcccactcc gacactctag catcctgacc 420
ccatcggtcg tgatcaaact ggggaccatc gtgatgctga gagggctgct gtgggtgagc 480
cccttctgct tcatggtgtc taggatgccc ttctgccaac accaagccat tccccagtca 540
tactgtgagc acatggctgt gctgaagttg gtgtgtgctg atacaagcat aagtcgtggg 600

tatgggctct ttgtggcctt ctctgtggct ggctttgata tgattgtcat tggtatgtca 660
tacgtgatga ttttgagagc tgtgcttcag ttgccctcag gtgaagcccg cctcaaagct 720
tttagcacac gtgcctccca tatctgtgtc atcttggctc tttatatccc agcccttttt 780
tctttcctca cctaccgctt tggccatgat gtgccccgag ttgtacacat cctgtttgct 840
aatctctatc tactgatacc tcccatgctc aaccccatca tttatggagt tagaaccaaa 900
cagatcgggg acagggttat ccaaggatgt tgtggaaaca tc 942

<210> 476
<211> 860
<212> DNA
<213> Unknown (H38g325 nucleotide)

<220>
<223> Synthetic construct

<400> 476
tatatattgt tagacatata tatatgtcta aacaacactc atgtctaatt gtgtgtagag 60
tcactagagg caatttaaaa taagttttta tttttctttt tttctattgg caataacatg 120
attttagtga taaattttaa taattatgaa aacataacag tactttttaa aacataaaca 180
tttaaagaaa aagttttcat gattcttgta tacatcttaa catacatact ctccctttaa 240
agtaagttct ttgcattgtt taaatctttg cagacaaagc ttttcaagag caagtcagtg 300
gaaactagta gagcaggagt tgagaaagcc ctgtgcatta tacactcacc atgtcccaga 360
agttttgctc catccatcca gcaggatgtt agaccagggc atataatcta tccccggtca 420
ctcatttttct cattgtattg cctattgtgg gcacaatgta gttaatatat tttaaaataa 480
atattctgtt gccatttcag attcgtgagt tcatctggat agcggatttt tgtttgtttg 540
tttgttttgc tttagtcaat tttgattaat taaggaatct cagagtcctc actccttagc 600
tttcattttc aacttgtcta aaaggcactt tctgccagtg cacatcaacc ttctccaccc 660
atttcccaca tttccaccat ccttcctcac tctagtgcac taactccaaa aactcacagg 720
caactgtgaa agcacactct gtatgttatg ccatgttaat ccccatgctg aactcacaga 780
cttgtagcat gcggtacaaa aatgtgaatg aatctctgca gaagctgatg gacttcaaaa 840
tattttagca ttgaaagcaa 860

<210> 477
<211> 966
<212> DNA
<213> Unknown (H38g326 nucleotide)

<220>
<223> Synthetic construct

<400> 477
agtcacacag agccatagaa tctcacaagt gtctcagaat tccttctcca gggactctca 60
gaggatccag aactgcagcc cgtcctcgct gggctgtccc tgtccatgta cctggtcacg 120
gtgctgagga acctgctcat catcctggct gtcagctctg actcccacct ccacaccccc 180
atgtacttct tcctctccaa cctctcctgg gctgacattg gtttcacctc ggccatggtt 240
cccaagatga ttgtggacat gcagtcgcat agcagagtca tctcttaagc gggctgcctg 300
acacagatgt ctttctttgt cctttttgca tgtatagaag acatgctcct gactgtgatg 360
gcctatgacc aatttgtggc catctgtcac ccctgcacta cccagtcatc atgaatcctc 420
acctctgtgt cttcttagtt ttggtttctt ttttccttag cctgttggat tcccagctgc 480
acagttggat tgtgttacaa ttcaccttct tcaagaatgt ggaaatctct aattttttct 540
gtgatccatc tcaacttctc aaccttgcct gttctgacgg catcatcaat agcatattta 600
tatatttaga tagtattctg ttcagttttc ttcccatttc agggatcctt ttgtcttact 660
ataaaattgt cccctccatt ctaagaattt catcgtcaga tgggaagtat aaagccttct 720
ccatctgtgg ctctcacctg gcagttgttt gcttatttta tggaacaggc attggcgtgt 780
acctaacttc agctgtgtca ccaccccccag gaatggtgtg gtggcgtcag tgatgtatgc 840
tgtgggcacc cccatgctga actcttttat ctacagcctg agaaacaggg acattcaaag 900
cgccctgtgg aggctgcgca gcagaacagt cgaatctcat gatctgttcc atccttattc 960
ttgtgt 966

<210> 478
<211> 951

<212> DNA
<213> Unknown (H38g327 nucleotide)

<220>
<223> Synthetic construct

<400> 478
atgcaaccat ataccaaaaa ctggacccag gtaactgaat ttgtcatgat gggctttgct 60
ggcatccatg aagcacacct cctcttcttc atactcttcc tcaccatgta cctgttcacc 120
ttggtggaga atttggccat cattttagtg gtgggtttgg accaccgact acggagaccc 180
atgtatttct tcctgacaca cttgtcctgc cttgaaatct ggtacacttc tgttacagtg 240
cccaagatgc tggctggttt tattggggtg gatggtggca agaatatctc ttatgctggt 300
tgcctatccc agctcttcat cttcaccttt cttggggcaa ctgagtgttt cctactggct 360
gccatggcct atgatcgtta tgtggccatt tgtatgcctc tccactatgg ggcttttgtg 420
tcctggggca cctgcatccg tctggcagct gcctgttggc tggtaggttt cctcacaccc 480
atcttgccaa tctacctctt gtctcagcta acattttgtg gcccaaatgt cattgaccat 540
ttctcctgtg atgcctcacc cttgctagcc ttgtcgtgct cagatgtcac ttggaaggag 600
actgtggatt tcctggtgtc tctggctgtg ctactggcct cctctatggt cattgctgtg 660
tcctatggca acatcgtctg gacactgctg cacatccgct cagctgctga gcgctggaag 720
gccttctcta cctgtgcagc tcacctgact gtggtgagcc tcttctatgg cactcttttc 780
tttatgtatg tccagaccaa ggtgacctcc tccatcaact tcaacaaggt ggtatctgtc 840
ttctactctg ttgtcacgcc catgctcaat cctctcatct acagtcttag gaacaaggaa 900
gtgaagggag ctctgggtcg agtcttttct ctcaactttt ggaagggaca g 951

<210> 479
<211> 936
<212> DNA
<213> Unknown (H38g328 nucleotide)

<220>
<223> Synthetic construct

<400> 479
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc cccatgtac 180
tttctactgg ccagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcgt tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagatatg tggccctatg taagcccctc cactatctga ccattatgag cccaagaatg 420
tgcctttcat ttctggctgt tgcctggacc cttggtgtca gtcactccct gttccaactg 480
gcatttcttg ttaatttacc cttctgtggc cctaatgtgt tggacagctt ctactgtgac 540
cttcctcagc ttctcagact agcctgtacc gacacctaca gattgcagtt catggtcact 600
gttaacagtg ggtttatctg tgtgggtact ttcttcatac ttctaatctc ctacatcttc 660
atcctgttta ctgtttggaa acattcctca ggtggttcat ccaaggccct ttccactctt 720
tcagctcaca gcacagcggt ccttttgttc tttggtccac ccatgtttgt gtatacatgg 780
ccacacccta attcacagat ggacaagttt ctggctattt ttgatgcagt tctcactcct 840
tttctgaatc cagttgtcta tacattcagg aataaggaga tgaaggcagc aataaagaga 900
gtatgcaaac agctagtgat ttacaagaag atctca 936

<210> 480
<211> 668
<212> DNA
<213> Unknown (H38g329 nucleotide)

<220>
<223> Synthetic construct

<400> 480
gtgaggcacc ccctgcgatg cgggaagtaa gagccagccc ctctcccacc cctggctctt 60
aggaacccca tcatgacctc gtgtttctgt ggctttctag ttttgtcttt ttttttttt 120

```
ttctcagtcc tttagacgcc cagctgcaca acttgattgc cttacaaatg acctgcttcc    180
aggatgcgga aattcctagt ttcttctgtg acccttctca actcccccat cttgcatgtt    240
gtgacacctt caccaataac ataatcatgt atttgcctgc tgccatattt ggttttcttc    300
ccatctcggg gacccttttc tcttactata aaattgtttc ctccattctg agggtttcat    360
catcacgtgg gaagtataag gccttctcca cctgtgggtc tcacctgtca gttgtttgct    420
gattttacgg aacaggcttt ggagggtacc tcagttcaga tgtgtcatct tccccgagaa    480
aggctgcagt ggcctcagtg atgtacacgg tgatcacctc catgctgaac cccttcatct    540
acagcctgag aaacagggat attaaaggtg tcctgcggca gccgcacggc agcaccgtcc    600
aatttcagta tcttcttatc tgttccattc cttttgtagt gtgggttaaa aaaggcagca    660
aggtcaaa                                                             668
```

<210> 481
<211> 840
<212> DNA
<213> Unknown (H38g330 nucleotide)

<220>
<223> Synthetic construct

<400> 481

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atgtacctgg tcacggtgct gaggaacctg ctcatcatcc tggctgtcag ctctgactcc     60
cacctccaca cccccatgtg cttcttcctc tccaacctgt gctgggctga catcggtttc    120
acctcggcca tggttcccaa gatgattgtg gacatgcagt cgcatagcag agtcatctct    180
tatgcgggct gcctgacaca gatgtctttc tttgtccttt ttgcatgtat agaagacatg    240
ctcctgacag tgatggccta tgaccgattt gtggccatct gtcaccccct gcactaccca    300
gtcatcatga atcctcacct tggtgtcttc ttagttttgg tgtccttttt cctcagcctg    360
ttggattccc agctgcacag ttggattgtg ttacaattca ccttcttcaa gaatgtggaa    420
atctccaatt ttgtctgtga cccatctcaa cttctcaacc ttgcctgttc tgacagtgtc    480
atcaatagca tattcatata tttagatagt attatgtttg gttttcttcc catttcaggg    540
atccttttgt cttacgctaa caatgtcccc tccattctaa gaatttcatc atcagatagg    600
aagtctaaag ccttctccac ctgtggctct cacctggcag ttgtttgctt attttatgga    660
acaggcattg gcgtgtacct gacttcagct gtgtcaccac cccccaggaa tggtgtggtg    720
gcatcagtga tgtacgctgt ggtcaccccc atgctgaacc ctttcatcta cagcctgaga    780
aatagggaca ttcaaagtgc cctgtggagg ctgcgcagca gaacagtcga atctcatgat    840
```

<210> 482
<211> 924
<212> DNA
<213> Unknown (H38g331 nucleotide)

<220>
<223> Synthetic construct

<400> 482

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atggaaacac agaacctcac agtggtgaca gaattcattc ttcttggtct gacccagtct     60
caagatgctc aacttctggt ctttgtgcta gtcttaattt tctaccttat catcctccct    120
ggaaatttcc tcatcatttt caccataaag tcagaccctg ggctcacagc ccccctctat    180
ttctttctgg gcaacttggc cttactggat gcatcctact ccttcattgt ggttcccagg    240
atgttggtgg acttcctctc tgagaagaag gtaatctcct atagaagctg catcactcag    300
ctctttttct tgcattttct tggagcggga gagatgttcc tcctcgttgt gatggccttt    360
gaccgctaca tcgccatctg ccggccttta cactattcaa ccatcatgaa ccctagagcc    420
tgctatgcat tatcgttggt tctgtggctt gggggcttta tccattccat tgtacaagta    480
gcccttatcc tgcacttgcc tttctgtggc ccaaaccagc tcgataactt cttctgtgat    540
gttccacagg tcatcaagct ggcctgcacc aataccttttg tggtggagct tctgatggtc    600
tccaacagtg gcctgctcag cctcctgtgc ttcctgggcc ttctggcctc ctatgcagtc    660
atcctctgtc gtataaggga gcactcctct gaaggaaaga gcaaggctat ttccacatgc    720
accacccata ttatcattat atttctcatg tttggacctg ctattttcat ctacacttgc    780
cccttccagg ctttcccagc tgacaaggta gtttctcttt tccatactgt catctttcct    840
ttgatgaacc ctgttattta tacgcttcgc aaccaggagg tgaaagcttc catgaggaag    900
ttgttaagtc aacatatgtt ttgc                                           924
```

<210> 483
<211> 457
<212> DNA
<213> Unknown (H38g332 nucleotide)

<220>
<223> Synthetic construct

<400> 483
gggatgagaa aggaacaagc tgtctgtggt agtcatccat gattgagatg atgtgtggac 60
cctgagtcag actacctggt tcaaatgcag gctctctact ttttacccat ttgatcttgg 120
cctgtggctc tctacttctt atccatttca tcttggactt gtggcctctc atacctcatc 180
ttccttacag tcctccatat gaaatccccc taaagtagga acaaagcttt ggccaactgc 240
tcctcccatc tttccgtggt ctttacttag gaactgtgtg tttaatatac gtgacacagg 300
gtttctccca catccctgag cagaaacaag ctgtgtctgt attttgcact gtactcaccc 360
ccatgctaaa ccccctcatc tacatcctga gaaacaagga tgtggtgggg ctcttcagaa 420
agttctggga acacatcaag tctctaaaca gaacaca 457

<210> 484
<211> 972
<212> DNA
<213> Unknown (H38g333 nucleotide)

<220>
<223> Synthetic construct

<400> 484
atgtctttct tctttgtaga cttaagaccc atgaacaggt cagcaacaca catcgtgaca 60
gagtttattc tcctgggatt ccctggttgc tggaagattc agattttcct cttctcattg 120
tttttggtga tttatgtctt gaccttgctg ggaaatggag ccatcatcta tgcagtgaga 180
tgcaacccac tactacacac ccccatgtac tttctgctgg gaaatttgc cttccttgag 240
atctggtatg tgtcctccac tattcctaac atgctagtca acattctctc caagaccaag 300
gccatctcat tttctgggtg cttcctccag ttctatttct tcttttcact gggaacaact 360
gaatgtctct ttctggcagt aatggcttat gatcgatacc tggccatctg ccacccactg 420
cagtaccctg ccatcatgac tgtaaggttc tgtggtaagc tggtgtcttt ctgttggctt 480
attggattcc ttggataccc aattcccatt ttctacatct cccaactccc cttctgtggt 540
cctaatatca ttgatcactt cctgtgtgac atggacccat tgatggctct atcctgtgcc 600
ccagctccca taactgaatg tattttctat actcagagct cccttgtcct ctttttcact 660
agtatgtaca ttcttcgatc ctatatcctg ttactaacag ctgtttttca ggtcccttct 720
gcagctggtc ggagaaaagc cttctctacc tgtggttctc atttggttgt ggtatctctt 780
ttctatggga cagtcatggt aatgtatgta agtcctacat atgggatccc aactttattg 840
cagaagatcc tcacactggt atattcagta acgactcctc tttttaatcc tctgatctat 900
actcttcgta ataaggacat gaaactcgct ctgagaaatg tcctgtttgg aatgagaatt 960
cgtcaaaatt cg 972

<210> 485
<211> 945
<212> DNA
<213> Unknown (H38g334 nucleotide)

<220>
<223> Synthetic construct

<400> 485
atggccaaca tcaccaggat ggccaaccac actggaaagt tggatttcat cctcatggga 60
ctcttcagac gatccaaaca tccagctcta cttagtgtgg tcatctttgt ggttttcctg 120
aaggcgttgt ctggaaatgc tgtcctgatc cttctgatac actgtgacgc ccacctccac 180
agccccatgt actttttcat cagtcaattg tctctcatgg acatggcgta catttctgtc 240
actgtgccca agatgctcct ggaccaggtc atgggtgtga ataaggtctc agcccctgag 300
tgtgggatgc agatgttcct ctatctgaca ctagcaggtt cggaattttt ccttctagcc 360
accatggcct atgaccgcta cgtggccatc tgccatcctc tccgttaccc tgtcctcatg 420

aaccataggg tctgtctttt cctggcatcg ggctgctggt tcctgggctc agtggatggc 480
ttcatgctca ctcccatcac catgagcttc cccttctgca gatcctggga gattcatcat 540
ttcttctgtg aagtccctgc tgtaacgatc ctgtcctgct cagacacctc actctatgag 600
accctcatgt acctatgctg tgtcctcatg ctcctcatcc ctgtgacgat catttcaagc 660
tcctatttac tcatcctcct caccgtccac aggatgaact cagcagaggg ccggaaaaag 720
gcctttgcca cctgctcctc ccacctgact gtggtcatcc tcttctatgg ggctgccgtc 780
tacacctaca tgctccccag ctcctaccac acccctgaga aggacatgat ggtatctgtc 840
ttctatacca tcctcactcc ggtgctgaac cctttaatct atagtcttag gaataaggat 900
gtcatggggg ctctgaagaa aatgttaact gtgagattcg tcctt 945

<210> 486
<211> 759
<212> DNA
<213> Unknown (H38g335 nucleotide)

<220>
<223> Synthetic construct

<400> 486
agccacctct ccgtcattga cacattatac atctccacca ttgtgcccaa gatgctggta 60
gattatctca tgggcgaggg gaccatctct ttcatcgcct gcactgctca gtgctttctc 120
tacatgggct ttatggggc tgaattcttc ctgctggggc tcatggccta tgaccgctac 180
gtggccatct gcaacccact gcgctatcct gtcctcatca gctggcgggt ctgctggatg 240
atcctggcca gctcttggtt cggtggggct ttggacagtt ttctcctcac cccccattacc 300
atgagtctcc cgttctgtgc ctctcaccaa atcaatcact tttctgtga ggcacccacc 360
atgctgaggc tggcctgtgg ggacaaaacc acctatgaaa cagtgatgta tgtgtgctgc 420
gttgcaatgc tgctgatccc cttctcggtg gtgactgcat cctacaccag gattctcatc 480
acagtgcatc agatgacatc ggctgaaggg aggaagaagg cctttgccac ctgctcttca 540
cacatgatgg tggtgacatt gttctatggg gctgccttgt atacgtatac gcttccccaa 600
tcttaccaca ccccaatcaa agataaggtc ttctctgcct tttataccat cctcacaccc 660
ttattaaacc ctctcatcta cagtctgagg aacagggatg tgatgggtgc cttgaagaga 720
gttgtggcaa gatgttaggg gacatgtggt gtgatgagg 759

<210> 487
<211> 857
<212> DNA
<213> Unknown (H38g336 nucleotide)

<220>
<223> Synthetic construct

<400> 487
gttttctccc gcacccgggt tcgcctcaat tgcaaacgca tattctggct aacgccagtc 60
tttttttgt ccccctcatg cccatctcct atcgcagtgt ctaagagtgc agtcagcttc 120
gtgtcacaga gcaggcgcat tagatttttg ggctgtgaca ttcaaacggt atgtgttcct 180
gggcccctgg gggaactgaa gcccttctct ttggttttat gtcttatgat cgctatgtag 240
ctatctgtca ccctttacat tatcctatgc ttatgagcaa gaagatctgc tgcctcatgg 300
ttgcatgtgc atgggccagt ggttctatca atgctttcat acatacattg tatgtgtttc 360
agcttccatt ctgtaggtct cggctcatta accacttttt ctgtgaagtt ccagctctac 420
tatcattggt gtgtcaggac acctcccagt atgagtatac agtcctcctg agtggactta 480
ttatcttgct actaccattc ctagccattc tggcttccta tgctcgtgtg cttattgtgg 540
tattccagat gagctcagga aaaggacagg caaaagctgt ttccacttgt tcctcccacc 600
tgattgtggc aagcctgttc tatgcaacca ctctctttac ctacacaagg ccacactcct 660
tgcgttcccc ttcacgggat aaggcggtgg cagtatttta caccattgtc acacctctac 720
tgaacccatt tatctacagc ctgagaaata aggaagtgac gggggcagtg aggagactgt 780
tgggatattg gatatgctgt agaaaatatg acttcagatc tctgtattga ttgagcatta 840
acaacataaa aagctgt 857

<210> 488
<211> 812
<212> DNA

<213> Unknown (H38g337 nucleotide)

<220>
<223> Synthetic construct

<400> 488
agaagggaca ttttctattt tgccttcatt tgtagctatt catgactgac tctccgttct 60
tttgtctact tgttcatccg tccatccatc catccatcca tccactcagc cattcttttg 120
ttcaacagtg atttactgaa ttccttacta tgactcttct atatttgaca tgccacacga 180
tgttcagcaa tgacttctac tcaagagcta gtttttagtt tcacactgct tttctcttgt 240
tctttatctt ttgcttttgt agctcagaac agaaaaatct atagaaaaga tcttgctacc 300
aggctatggg accctcttgt ccatggcgat atcttactgt ctttgtgtct ttgggctgag 360
caatcctgca gcatggtgta tgctcaataa tgctcatgga acaaaatggt gtggttcctc 420
ttccaggaag tgctgccatc tctcttttga ttgagaatag gtttacctag gtgattacat 480
cactaacatt gtattcctgt gatttcttcc tcatgatagg acagatttta ctaaaaagtc 540
aaaaattatt tattacatta tgccgttcct cttacttttc atgccagatt aaattttctt 600
ggtccttcaa tgcccacttc taatatcaat aaacaagtaa cctttcccca acctactgaa 660
gtcgccatgt ggaattggtc attctttctg ttgattccat atcatcccct tcattcttct 720
gtctgcccgt ttgtccatcc atttatccat ccacttagct attcgttcgt tcaacaatga 780
tttagtgaat acctacttac tgtgacccta tt 812

<210> 489
<211> 931
<212> DNA
<213> Unknown (H38g338 nucleotide)

<220>
<223> Synthetic construct

<400> 489
atgtcattag ctgaaggaaa tcagagttct ggagccgtat ttaccctctt gggcttctca 60
gaatatgcag acctccaggt tcctctgttc ctggtcttcc tgaccatcta cacaatcact 120
gtattgggaa acctgggcat gatcatgatc atcaggatca accccaaact ccacacccgc 180
atgtactttt tcctcagcca cttgtccttt gttgatttct gttattccac cacagttaca 240
cccaaactgc tggagaactt ggttgtggaa gacagaacca tctccttcac aggatgcatc 300
atgcaattct tcctggcgtg tatatgtgca gtggcagaaa cattcatgct ggcagtgatg 360
gcctatgatt gatacgtggc ggtgtgtaac cctttgctct acacagttgt caggtcccag 420
aaactctgtg catcattagt ggcagggccc tacacatggg gtataatctc ttctctgaca 480
ctcacctatt tcctcttgtc attatccttc tgtgggtcta acatcatcaa taattttgtc 540
tgtgagcact ctgtcatcat ctctgtctcc tgctctgacc cctacatcag ccaaatgctt 600
tgttttgtca ttgcaatatt caatgaggtg agcagcttgg gagtcatcct cactacctat 660
attttcatct ttattgctgt cataaaaatg ccttctgctg ttgggcacca aaaagctttc 720
tctacctgtg cttcccacct gactgccatc actattttcc acgggactgt cctgttcctt 780
tattgtgtac ccaactccaa aaactcatgg ctcatagtca aagtaggttc tgtgttttat 840
acagtcatca tccccacgtt gaacccttta acctacagcc tcaggaacaa agacgtgaaa 900
gagagtgttc gaaagttaat gaatcactca a 931

<210> 490
<211> 651
<212> DNA
<213> Unknown (H38g339 nucleotide)

<220>
<223> Synthetic construct

<400> 490
ttcttggtcc tttttgcatg tatagaagac atgttcctga ctgtgatggc ctatgactgc 60
tttatagcca tctgtcatcc tctgcactac ccagtcatcg tgaatcctca cctctgtgtc 120
ttcttcattt tggtgtcctt tttccttagc ctgttggatt cccagctgca tagctggatt 180
gtgttacaat tcaccatcat caagaatgtg gaagtctcta attttgtctg tgacccctct 240
caacttctca aacttgcctg ttctgacagc gtcatcaata gcatattcat atatttcgat 300

```
aatactatgt ttggttttct tcccatttca gggatccttt ggtcttacta taaaatcgtc     360
ccctacattc tcaggatttc atcgtcagat gggaagtata aagccttcgc cacctgtggc     420
tctcacctgg cagttgcttg ctgattttat ggaacaggca ttggcatgta cctgacttca     480
gctgtgtcac cacccccag gaatggtgtg gtggcatcag tgatgtacgc tgtggtcacc      540
cccatgctga acctttttat ctacagcctg agaaacaggg acatacaaag tgccctgcgg     600
aggctgcgcc ccagaacagt cgaatctcat gatctgttcc atcctttttc t              651
```

<210> 491
<211> 933
<212> DNA
<213> Unknown (H38g340 nucleotide)

<220>
<223> Synthetic construct

<400> 491

```
atgggcaagg aaaactgcac cactgtggct gagttcattc tccttggact atcagatgtc      60
cctgagttga gagtctgcct cttcctgctg ttccttctca tctatggagt cacgttgtta     120
gccaatctgg gcatgactgc actgattcag gtcagctctc ggctccacac ccccgtgtac     180
tttttcctca gccacttgtc ctttgtagat ttctgctact cctcaataat tgtgccaaag     240
atgttggcta atatctttaa caaggacaaa gccatctcct tcctagggtg catggtgcaa     300
ttctacttgt tttgcacatg tggagtcact gaggtcttcc tgctggccgt gatggcctat     360
gaccgctttg tggccatctg taaccccctg ctgtacatgg tgaccatgtc tcagaagctg     420
cgtgtggagc tgacctcttg ctgctacttc tgtgggacgg tgtgttctct gattcactcg     480
tccttagctc ttaggatcct cttctataga tctaatgtga ttaaccactt cttctgtgat     540
ctacccctc tcctaagtct tgcttgctct gatgtcactg tgaatgagac actgctgttc      600
ctggtggcca ctttgaatga gagtgttacc atcatgatca tcctcacctc ctacctgcta     660
attctcacca ctatcctgaa gatacactct gcagagagca ggcacaaagc tttctccacc     720
tgtgcctccc acctcacagc catcactgtc tcccatggaa caatccttta catttattgc     780
aggccgagtt caggcaacag tggagatgtt gacaaagtgg ccaccgtgtt ctacacagtt     840
gtgattccca tgctgaaccc cctgatctac agcctgagaa ataaggatgt gaacaaagct     900
ctcagaaaag tgatgggctc caaaattcac tcc                                  933
```

<210> 492
<211> 963
<212> DNA
<213> Unknown (H38g341 nucleotide)

<220>
<223> Synthetic construct

<400> 492

```
atgtttctga cagagagaaa tacgacatct gaggccacat tcactctctt gggcttctca      60
gattacctgg aactgcaaat tcccctcttc tttgtatttc tggcagtcta cggcttcagt     120
gtggtaggga atcttgggat gatagtgatc atcaaaatta acccaaaatt gcataccccc     180
atgtattttt tcctcaacca cctctccttt gtggatttct gctattcctc catcattgct     240
cccatgatgc tggtgaacct ggttgtagaa gatagaacca tttcattctc aggatgtttg     300
gtgcaattct ttttcttttg cacctttgta gtgactgaat taattctatt tgcggtgatg     360
gcctatgacc actttgtggc catttgcaat cctctgctct acacagttgc catctcccag     420
aaactctgtg ccatgctggt ggttgtattg tatgcatggg gagtcgcatg ttccctgaca     480
ctcgcgtgct ctgctttaaa gttatctttt catggtttca acacaatcaa tcatttcttc     540
tgtgagttat cctccctgat atcactctct taccctgact cttatctcag ccagttgctt     600
cttttcactg ttgccacttt taatgagata agcacactac tcatcattct gacatcttat     660
gcattcatca ttgtcaccac cttgaagatg ccttcagcca gtgggcaccg caaagtcttc     720
tccacctgtg cctcccacct gactgccatc accatcttcc atggcaccat cctcttcctc     780
tactgtgtac ccaactccaa aaactccagg cacacagtca aagtggcctc tgtgttttac     840
accgtggtga tccccttgtt gaatcccctg atctacagtc tgagaaataa agatgttaag     900
gatgcaatcc gaaaaataat caatacaaaa tattttcata ttaaacatag gcattggtat     960
cca                                                                   963
```

<210> 493

<211> 303
<212> DNA
<213> Unknown (H38g342 nucleotide)

<220>
<223> Synthetic construct

<400> 493
tgttgcccac tccaccacca ttacctgcct agacagtcac tggatcagct cacatactta 60
attgctttga ttttcaattt tctctttgtt tttggcctcc agagttcctt tattttctta 120
aaggcatgac agtgctttcc aaaggatatc cactatattt tcgttaaggc gagaagggct 180
tcaggttatc taacctacca tattgctgga aatagaagtt aaaccgtttt tttcctagtc 240
tgtaactgcc actattatgg tgatgatata ggctaagtct gaatatttta tgtgaacata 300
tta 303

<210> 494
<211> 957
<212> DNA
<213> Unknown (H38g343 nucleotide)

<220>
<223> Synthetic construct

<400> 494
atgcctgtgg ggaaacttgt cttcaaccag tctgagccca ctgagtttgt gttccgtgcg 60
ttcaccacag ccactgaatt ccaggttctt ctcttccttc tcttcctcct cctctacttg 120
atgatcctct gtggcaacac agccatcatc tgggtggtgt gcacacacag caccctccgc 180
accccgatgt atttcttcct gtccaacctg tctttcctgg aactctgcta caccaccgtg 240
gtagtaccct tgatgctttc caacattttg gggggcccaga agcccatttc gttggctgga 300
tgtggggccc aaatgttctt ctttgtcacc ctcggcagca cggactgttt cctcttggcg 360
atcatggcct atgaccgcta tgtggctatc tgccacccgc tgcactacac cctcatcatg 420
acccgcgagc tgtgcacgca gatgctgggt ggggccctgg gcctggccct cttcccctcc 480
ctgcagctca ccgccttaat cttcaccctg ccctttttgcg gccaccacca ggaaatcaac 540
cacttcctct gcgatgtgcc tcccgtcctg cgcctggcct gcgctgacat ccgcgtgcac 600
caggctgtcc tctatgtcgt gagcatcctc gtgctgacca tccccttcct gctcatctgc 660
gtctcctacg tgttcatcac ctgtgccatc ctgagcatcc gttctgccga gggccgccgc 720
cgggccttct ccacctgctc cttccacctc accgtggtcc tgctgcagta tggctgctgc 780
agcctcgtgt acctgcgtcc tcggtccagc acctcagagg atgaggacag ccaaatcgcg 840
ttggtctaca cctttgtcac cccccttactc aacccctttgc tttacagcct taggaacaag 900
gatgtcaaag gtgctctgag gagtgccatt atccgtaaag cagcctctga cgccaac 957

<210> 495
<211> 624
<212> DNA
<213> Unknown (H38g344 nucleotide)

<220>
<223> Synthetic construct

<400> 495
atggagctgg agaatggcac tgtgaagact gggttctttc tcctgggatt cagcgaccat 60
ctggaacttc agagtctcct ttttgcagaa ttttttttcca tctactctgt tactctgatg 120
gggaaccttg gaatgatttt attaatcaca atcagttccc acttgcacac tcctatgtac 180
tttttcctct gtgtgttgtc cttcatagat gcatgctact cttctgtcat tgctcccaaa 240
ttacttgtga acttggtttc tgaaaagaag accatttctt acaatggctg tgttgcacag 300
ttatatttct tctgctcttt agttgacaca gaatctttcc tcttggctgc catggcttaa 360
gaccggtaca tagcaatctg taacccgctg ctctatacag tgattatgtc caagaaggtt 420
tgttgccagc ttgcaattgg agcattttttg gggggcacta tgagctcaat tattcatacc 480
acgaacactt tccatctgtc attctgctcc agagatatta accatttctt ttgtgatatc 540
tcccccactct tctctctgtc ctgcactgac acatacatgc atgacatcat tctggtggtc 600
tttgccagtt ttgtggaagc aatc 624

<210> 496
<211> 963
<212> DNA
<213> Unknown (H38g345 nucleotide)

<220>
<223> Synthetic construct

<400> 496
cacacagagc cacggaatct cacaggtgtc tcagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcctgt cctccctggg ctgtccctgt ccatgtatct gctcacggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaaccc gtcatgggct gacatcgctt tcacctcggc cacagttccc 240
aagatgattg tggacatgca gtcgcatagc agtcatctct tatgcaagct gcctgacaca 300
gatgtctttc tttgcccttt ttgcatgcat agaagatcat gctcctgatt gtgatggcct 360
atgaccgatt tgtagccgtc tgtcactccc cacactaccc agtcatcatg aatcctcgcc 420
tcggtgtctt cttcgttttg gtgtcctttt tccttagcct gttggattcc cagctgcaca 480
gttggactgt gttacaattc accttcttca agaatgtgga aatctctaat tttgtctgtg 540
acccatctca acttctcaac cttgcctgtt ctgacagcgt catcgatagc atattcatat 600
atttagatag tactatgttt cgttttcttc cgatttcagg gatccttttg tcttactcta 660
acattgtccc ctccattcta agaatttcat catcagatgg gaagtctaaa gccttctcca 720
cctgtcgctc tcacctggca gttgtttgct tattttatgg aacaggcatt ggcgtgtacc 780
tgacttcagc tgtggcacca cccccaggag tggtgtggtg gtgtcagtga tgtacactgt 840
ggtcaccccc atgctgaacc ctttcatcta ctgcctgaga aacagggaca ttcaaagcgc 900
cctgtggagg ctgcgcagca gaacagtcga atctcatgat ctgttccatc ctttttcttg 960
tgt 963

<210> 497
<211> 932
<212> DNA
<213> Unknown (H38g346 nucleotide)

<220>
<223> Synthetic construct

<400> 497
gaaaagaatc tcatctctat gaatgggttt atgaacttca ctgattaccc agagttggaa 60
atgcccttgt tcttagtgtt tctcagttgc ttcctggcca ttattttgag aaatatggaa 120
tgggtcattc tgacccaagt gaatgtgcat ctcttcaccc tatatacttc ttcctaacaa 180
atgtcaccct ttgggatacc tcagtcatca tgcctcagat cctggccatt ctggccacag 240
gcaagacaac catttcctat ggccgctaat aaaagcaatg aggtcctttt tcttcatttg 300
tgtaggaact tagtgtttcc tgccaacagc aatgaccata agcagcccac tgccccacac 360
tacaagccat gaacttcaag acatgttggg gttttttttt ggtggggatt tgttgttgta 420
catgctgggt tttgatggtg aacgtggtga atgcctacac ctgaggacta tcaggagcca 480
ctttcaacac catctgcaca tttgcccgct tcttctgtga tgacaattag atcaaattct 540
gtcacatcct gcccctgctg aagctcattt gaaatacttc aggaaacagc aagataatta 600
ttgtgatctt tgacagcttt tatgattata gctggcacta gggtcatcct gatctcttac 660
ctgctaatca tcagggcttt gaggatgaaa tcatcgagtg gcaaagccaa taattttatc 720
catccacttg tgcctcccac ctaactgcta tgaccttcct ttgggatccc catcttcaga 780
catgtgaagt acctcagata aatcactgac agaagacaag ttggcatcat gacttgcacc 840
atctttattc ctatgctaga acttttgatc caaagtctaa agaaggatat acaagttgcc 900
ttcaaaaagg ccataggtaa cttctgggtt tt 932

<210> 498
<211> 1005
<212> DNA
<213> Unknown (H38g347 nucleotide)

<220>
<223> Synthetic construct

<400> 498
tctacagacc cacagaatct aacagatgtc tctatattcc tcctccgaga acctcagagg 60
atccagaatg gcagctggtc cttgctgggt tgttcctgtc catgtgcctg gtaacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt 180
acttcttcct ctccaacctg tccttgcctg acatcggttt cacctccacc acggtagcca 240
agatgattgt ggacatccaa tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctcc ctttgccatt tttggagtca tggaagagag acacgctcct gagtgtgatg 360
gcctctgacc gctttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gctttctagt tttgttgtct ttttttttt tttctgtctt ttagatgccc 480
agctgcacaa cttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attcctaatt 540
tcttctgtga cccttctcaa ctcccccatc ttgcatgttg tgacaccttc accaataaca 600
taatcatgta tttccctgct gccatatttg gttttcttcc catctcgggt tccctttttct 660
cttactataa aattgtttcc tccattctga gggtttcatc atcaggtggg aagtattagg 720
ccttctcctc ctgttggtct cacctgtcag ttgtttgctg attttatgga acaggcgttg 780
gaggtacctc agttgagatg tgtcatcttc cccgaggaag gttgcagtgg cctcagtgat 840
gtacatggtg gtcaccccta tgctgaaccc ctttgtctac agcctgagaa acagggatat 900
taaaagtgtc ctgcggtggc cgcacggcag cacggtctaa tctcaatatc ttcttatctg 960
ttccattcct tttgtagtgt aggttaaaaa ggcagcaagg tcaaa 1005

<210> 499
<211> 975
<212> DNA
<213> Unknown (H38g348 nucleotide)

<220>
<223> Synthetic construct

<400> 499
atgaagactt ttagttcctt tcttcagatc ggcagaaata tgcatcaagg aaaccaaacc 60
accatcactg aattcattct cctgggattt ttcaagcagg atgagcatca aaacctcctc 120
tttgtgcttt tcttgggtat gtacctggtc actgtgattg ggaacgggct catcattgtg 180
gctatcagct tggatacgta ccttcatacc cccatgtatc tcttccttgc caatctatcc 240
tttgctgata tttcctccat ttccaactca gtccccaaaa tgctggtgaa tattcaaacc 300
aagagtcaat ccatctctta tgagagctgc atcacacaga tgtacttttc tattgtgttt 360
gtcgtcattg acaatttgct cttggggacc atggcctatg accactttgt ggcgatctgc 420
caccctctga attatacaat tctcatgcgg cccaggttcg gcattttgct cacagtcatc 480
tcatggttcc tcagtaatat tattgctctg acacacaccc ttctgctcat ccaattgctc 540
ttctgtaacc acaacactct cccacacttc ttctgtgact tggcccctct gctcaaactg 600
tcctgttcag atacattgat caatgagctt gtgttgttta ttgtgggttt atcagttatc 660
atcttcccct ttacactcag cttcttttcc tatgtctgca tcatcagagc tgtcctgaga 720
gtatcttcca cacagggaaa gtggaaagcc ttctccactt gtggctctca cctgacagtt 780
gtattactgt tctacggaac cattgtaggc gtgtactttt tcccctcctc cactcacccct 840
gaggacactg ataagattgg tgctgtccta ttcactgtgg tgacacccat gataaacccc 900
ttcatctaca gcttgaggaa taaggatatg aaaggtgccc tgagaaagct catcaataga 960
aaaatttctt ccctt 975

<210> 500
<211> 768
<212> DNA
<213> Unknown (H38g349 nucleotide)

<220>
<223> Synthetic construct

<400> 500
atgtactttt tcctcagtca tctatccttt ttggatactt gttattccaa tgtatttaca 60
cccaaactgt tagagatttt ggttgtggaa gacagaacta tctccttcaa aggatgcatg 120
gtacaatttt tctttggttg tgcatttgta atcacagaaa tgttcatgtt agcggtgatg 180
gcttatgact tgtttatggc tgtttgtaac cccctgctct acacagtggc tatgtctcct 240
aagctctgtg ctctcctggt agctggaact tacacatggg gtggactctg ttccctgaca 300

```
ctcacttatt ctcttttggt gttatcctac tgtggatcta acatcataaa tcactttggc      360
tgtgagtact ctgccattct ttctctatcc tgctctgatc cctacttcaa ccagatggcg      420
tgtttagtca tttctatatt cagtgaagct tgtagcctcc tggccatcct tgccttctat      480
gtcttcatag ttgccactgt catcaagatg ctttctacgg gtggacccca aaaggccatc      540
tccacctgtg cctcccacct gaccaccgtc tccattttcc atggggtcat cctgctcctt      600
tactgtgtgc ccaactccaa aagctcatgg ctcctggtca aagtggctac tgtacttttt      660
acagtcataa tccctatgct gaatcccctg atctacagcc ttaggaacaa agatgtaaaa      720
gggaccgtca ggaagttgat aaactcccaa tcaccttttc actcaaaa                   768
```

```
<210> 501
<211> 951
<212> DNA
<213> Unknown (H38g350 nucleotide)

<220>
<223> Synthetic construct

<400> 501
atggcagaga gtggcaccac ggtgacagaa tttttctga ggggttccg gttgaaggca       60
gagctgcaga taggtctctt ctttgtgttt ctggtcattt ttctcatcac catgggggc     120
aacctgggca tgattgtgct aatttaattc agactgaccc tcggctccag actcccatgt      180
acttcttcct cagtcatctt tccttcctgg acatttgcta ctcttctgtt attggtcctc      240
agttgcttga gactttggga ctgataagat gatcatcacc tatgagcgct gtgccagcca      300
attcttcttt ttcacactct gtgctagcat tgagtgtttc cttttggctg tgatggctta      360
tgaccggtac gtggctgtgt gtaacccct cctctatgcc atagtcatga caccaaagac     420
ccgcctggcg ctgctggccg gggcatattc tggtgccata gtcaattctg tgatctgcac      480
tggctgcacc ttctctatct ccttctctaa gtccaaccat gtagacttct ttttctgtga      540
cctcccaccc ctgctgaagc ttgcctgtag tgaaaccagg ccacgggaat gggtaatcta      600
cctctcagct tttctggtca tcacaaccag catttcagtg attcttacat cgtacttgtt      660
catcattcag tctgttctga agattcgtac agcaggtgga aagccaagac cttctccacc      720
tgtgcttctc acatgactgc attgactctc ttctttggaa cactcatatt catatacctg      780
aaaggcaaca tgggcgaatc ccttgaggaa gacaagatcg tgtcaatatt ttacactgtg      840
gtcatcccca tgctaaatcc aatgatctac agcctgagaa acaaagacat gaaagaggct      900
ctgaagaaag ttttcaacag gataagggtt tcccaagcag agtaactctt g               951
```

```
<210> 502
<211> 939
<212> DNA
<213> Unknown (H38g351 nucleotide)

<220>
<223> Synthetic construct

<400> 502
atgctgctga cagatagaaa tacaagtggg accacgttca ccctcttggg cttctcagat       60
tacccagaac tgcaagtccc actcttcctg gtttttctgg ccatctacaa tgtcactgtg      120
ctagggaata ttgggttgat tgtgatcatc aaaatcaacc ccaaactgca tacccccatg      180
tactttttcc tcagccaact ctcctttgtg gatttctgct attcctccat cattgctccc      240
aagatgttgg tgaaccttgt tgtcaaagac agaaccattt catttttagg atgcgtagta      300
caattctttt tcttctgtac ctttgtggtc actgaatcct ttttattagc tgtgatggcc      360
tatgaccgct tcgtggccat ttgcaaccct ctgctctaca cagttgacat gtcccagaaa      420
ctctgcgtgc tgctggttgt gggatcctat gcctggggag tctcatgttc cttggaactg      480
acgtgctctg ctttaaagtt atgttttcat ggtttcaaca caatcaatca cttcttctgt      540
gagttctcct cactactctc cctttcttgc tctgatactt acatcaacca gtggctgcta      600
ttctttcttg ccacctttaa tgaaatcagc acactactca tcgttctcac atcttatgcg      660
ttcattgttg taaccatcct caagatgcgt tcagtcagtg ggcgccgcaa agccttctcc      720
acctgtgcct cccacctgac tgccatcacc atcttccatg gcaccatcct cttcctttac      780
tgtgtgccca actccaaaaa ctccaggcac acagtcaaag tggcctctgt gttttacacc      840
gtggtgatcc ccatgttgaa tcccctgatc tacagtctga gaaataaaga tgtcaaggat      900
acagtcaccg agatactgga caccaaagtc ttctcttac                             939
```

<210> 503
<211> 932
<212> DNA
<213> Unknown (H38g352 nucleotide)

<220>
<223> Synthetic construct

<400> 503
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atggctgaaa ggaattacac cgtagtgacg gagttcttcc ttactgcatt tactgaacat      60
ctccagtgga gggttcctct cttcctcata tttttgagtt tctatcttgc cactatgtta     120
gggaacacag gcatgatcct cctgatccgt ggcgatcgtc ggctccacac cccgatgtac     180
ttcttcctca gccacctttc cttggtggac atctgctact cgtccgccat catccctcag     240
atgctggctg tgctgtggga gcacggcaca accatctccc aggctcgctg tgcagctcag     300
ttcttcctct tcaccttctt tgcctccatc gactgctacc ttctggccat catgcctatg     360
accgctacac ggccgtgtgc agcccctgct ttatgtcacc atcataaccg agaaggaccg     420
ctgggcctag tcactggggc ttacgttgct ggttttttca gtgcctttgt tcgacggtca     480
cagccttcac tctctccttt tgtggaaaca atgagatcaa cttcattttc tgtgacctcc     540
ctcctctatt aaaactctcc tgtggggaca gctacactca ggaagtggtg attattgtgt     600
ttgctctttt cgtcatgcct gcctgtatct tggtgatctt ggtatcctac ctgtttatca     660
ttgtggccat cctgcagatc cactctgctg gaggccgggc caagaccttc tccacctgcg     720
cctcccacct cactgccgtc gctcttttct ttggcaccct catcttcatg tacctgcgag     780
acaacacagg ccagtcctcc gagggagacc gagtggtgtc tgtgctctac acggtggtga     840
ccccaatgct gaatcccctt atctatagcc tgagaaacaa ggaggtaaaa gaggccacta     900
ggaaagccct gagcaaatca aagcctgcta ga                                   932
```

<210> 504
<211> 762
<212> DNA
<213> Unknown (H38g353 nucleotide)

<220>
<223> Synthetic construct

<400> 504
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atgtactatt tcctctccat gctgtccgcc actgacctcg gcctgtccat atccactctg      60
gtcaccatgc tgagtatatt ctggttcaat gtgagggaaa tcagctttaa tgcctgcttg     120
tcccacatgt tctttattaa attcttcact gtcatggaat cctcagtgct gttggccatg     180
gcttttgatc gttttgtggc cgtctctaat ccccttaggt atgccatgat tttaactgac     240
tccagaatag ctcaaattgg agtggcaagt gtcatcaggg ggctcctaat gctgacacca     300
atggtagcac ttcttataag actttcctac tgccacagcc aagtactcca ccactcctac     360
tgctaccacc ctgatgtgat gaagctctca tgcacagaca ccagaatcaa cagtgcagtt     420
gggctgactg ccatgttctc tactgttggt gtagacttac ttctcatcct cctttcttat     480
gttttgatca ttaggactgt ccttagcgtt gcttccccag aagagaggaa ggaaaccttc     540
agtacatgtg tctcccacat tgtggctttt gctatatatt acattccatt gatcagtctg     600
tccattgttc acagatttgg gaaacaagcc ccagcctatg tacatactat gattgctaac     660
acctacctgc tgatctcccc tttgatgaac cctgtcatct acagtgtgaa aaccaaacag     720
atacgtagag ctgtgataaa aattctccat tccaaagaaa ca                        762
```

<210> 505
<211> 565
<212> DNA
<213> Unknown (H38g354 nucleotide)

<220>
<223> Synthetic construct

<400> 505
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atggactggg aaaattgctc ctcattaact gatttttttc tcttgggaat taccaataac      60
ccagagatga aagtgaccct atttgctgta ttcttggctg tttatatcat taatttctca     120
gcaaatcttg gaatgatagt tttaatcaga atggattacc aacttcacac accaatgtat     180
```

ttcttcctca gtcatctgtc tttctgtgat ctctgctatt ctactgcaac tgggcccaag 240
atgctggtag atctacttgc caagaacaag tcaataccct tctatggctg tgctctgcaa 300
ttcttggtct tctgtatctt tgcagattct gagtgtctac tgctgtcagt gatggccttt 360
gatcggtaca aggccatcat caaccccctg ctctatacag tcaacatgtc tagcagagtg 420
tgctatctac tcttgactgg ggtttatctg gtgggaatag cagatgcttt gatacatatg 480
acactggcct tccgcctatg cttctgtggg tctaatgaga ttaatcattt cttctgtgat 540
atcccctcct ctcttattac tctct 565

<210> 506
<211> 978
<212> DNA
<213> Unknown (H38g355 nucleotide)

<220>
<223> Synthetic construct

<400> 506
ctcaatttca ttatcttctt caggtgaacc agctatattg agcctatggc caaaagaaat 60
ctcagcactg tgacagagtt cattcttgta gtcttcacag atcaccctga actggcagtt 120
ccactcttcc tagtgtttct cagtttctat cttgtcactt ttctggggaa tgggggggatg 180
atcattctaa tccaagtgga tgcccaactc cacacccccg tgtacttctt cctgagccac 240
cttgctttcc tggatgcctg ctgtgcctca gtaatcaccc ctcagattct ggccacactg 300
gccacagaca agacagttat ctcctatggc tgccgtgctg tgcagttctc tttcttcacc 360
atatgtgcag gcacagagtg ttacctgctg tcagtgatgg cctatgaccg ctttgttgcc 420
attagcaatc cactgcactg taacatgacc atgactccag gtacctgcag ggtctttttg 480
gccagtgcct tcatctgtgg ggtgtcaggg gccattctgc ataccacgtg caccttcacc 540
ctctccttct gttgtgacaa tcagatcaac ttcttcttct gtgacctccc accectgctg 600
aagctcgcct gcagcagcat gacacaaact gagattgtca ttctcctttg tgcaaaatgc 660
atgttcctag ccaatgtcat ggttatcctg atctgctaca tgctcattat cagagccatt 720
ttgagggtga agtcggcagg tgggtaagcc aagacccttct ccacctgcac ctcccatctc 780
accactgttg tcctcttctt tgggacactt gccttcatgt accagagaag taactccgcc 840
aaatcctcag aggaagacaa gatagtgtct gtcttttaca ctgtaatcat ccctatgttg 900
aacccccttga tctacagtct gaggaacaaa gatgtaaaag ctgcatttgg aaaactcgtt 960
ggtaaattcc aatttcca 978

<210> 507
<211> 983
<212> DNA
<213> Unknown (H38g356 nucleotide)

<220>
<223> Synthetic construct

<400> 507
atgctccctt cccagaccta tgtcaacatc tccttcttcc aaccgcctgc tcttctcatg 60
attggcatcc cagggctgga ggcggttcat ggctggctcg ccatcccctt ctcctccatg 120
tacactgtgg ccctccctgg gaactgcctg atcctcctgg ctgtgaagag gaaccccagc 180
ctgcaccagc ccatgtgcta cttcctgtcc atgctggcgc tccccaaagc gggcctcacc 240
ttgtccacac tgcccatcac cttggctgtg ctctggtttg accaccggct catgggcttc 300
aatgcctgcc tggtccagat gttcttcctg cactcctctg tggtggagtc ctcagtgctc 360
ctggccatat cctttgacca ctttgtggcc atctccaacc ccctgcacta tgcagctgtc 420
ctcacaaata gtgtcatcat caggattggg ctggccattg tggctcaagt taccttgtgc 480
ctcttcctgt gccatttccg gttaagagtc taaatttctg ccctggtgat aacatcccat 540
cccactcgtt ctgtttccac cctgatgtaa tgaggcgggc ctgtgcggac atcacgatca 600
atatatgcta tggggtctac gtggttgttt ctacaggggg cttagactcg ctgctcatct 660
ttctgtccta taccttcatc ctgcacacag tcatgggtct ggctgctccc agggagcgca 720
tctgggccct caacacctgc gtttcccaca ttccggctgt ctttgtcttc tttattccag 780
gtatcaccgt gtccatgatc caccattttg ggaggcacct gccccacatt gtacatgctc 840
ttgttaccta tgtgtacctg gtgatgcctt ctgtgctcca ccccatcatt tacagtatga 900
agtccaagcc catcagggag gccatcctca ggatgctgat ggggagaagc caaggctgat 960
gaaattacaa aatattatag ggt 983

<210> 508
<211> 933
<212> DNA
<213> Unknown (H38g357 nucleotide)

<220>
<223> Synthetic construct

<400> 508
atgggcaagg aaaactgcac cactgtggct gagttcattc tccttggact atcagatgtc 60
cctgagttga gagtctgcct cttcctgctg ttccttctca tctatggagt cacgttgtta 120
gccaacctgg gcatgattgc actgattcag gtcagctctc ggctccacac ccccatgtac 180
tttttcctca gccacttgtc ctctgtagat ttctgctact cctcaataat tgtgccaaaa 240
atgttggcta atatctttaa caaggacaaa gccatctcct tcctagggtg catggtgcaa 300
ttctacttgt tttgcacttg tgtggtcact gaggtcttcc tgctggccgt gatggcctat 360
gaccgctttg tggccatctg taaccctttg ctatacacag tcaccatgtc ttggaaggtg 420
cgtgtggagc tggcttcttg ctgctacttc tgtgggacgg tgtgttctct gattcatttg 480
tgcttagctc ttaggatccc cttctataga tctaatgtga ttaaccactt tttctgtgat 540
ctacctcctg tcttaagtct tgcttgctct gatatcactg tgaatgagac actgctgttc 600
ctggtggcca ctttgaatga gagtgttacc atcatgatca tcctcacctc ctacctgcta 660
attctcacca ccatcctgaa gatgggctct gcagagggca ggcacaaagc cttctccacc 720
tgtgcttccc acctcacagc tatcactgtc ttccatggaa cagtcctttc catttattgc 780
aggcccagtt caggcaatag tggagatgct gacaaagtgg ccaccgtgtt ctacacagtc 840
gtgattccta tgctgaactc tgtgatctac agcctgagaa ataaagatgt gaaagaagct 900
ctcagaaaag tgatgggctc caaaattcac tcc 933

<210> 509
<211> 621
<212> DNA
<213> Unknown (H38g358 nucleotide)

<220>
<223> Synthetic construct

<400> 509
cccccctctgc gatgggggtc ctaagagcca gcggaggaag aggggctggc tctcagttcc 60
cgcctttttt ttttttctca gtgttttaga cgcccagctg cacaacttga ttgccttaca 120
aatgacctgc ttccaggatg cggaaattcc taatttcttc tgtgaccctt ctcaactccc 180
ccatcttgca tgttgtgaca ccttcaccaa taacataatc atgtatttcc ctgctgtcat 240
atttggtttt cttcccatct ctgggaccct tttctcttac tataaaattg tttcctccat 300
tctgagtgtt tcatcatcac gtgggcagta taaggccttc tccacctgtg ggtctcacct 360
gtcagttgtt tgctgatttt acggaacggg cgttggagga tacttcagtt cagatgtgtc 420
atcttccccg agaaaggctg cagtggcctc agtgatgtac acggtgatca ccccatgctg 480
aacccccttca tctacagcct gagaaacagg catattaaaa gtgtcctgcg gcggccgcac 540
agcagcaccg tccaatctcc gtgtcttctt aactgttcca ttcctttttgt agtgtgggtt 600
aacaaaggca gcaaggtcaa a 621

<210> 510
<211> 633
<212> DNA
<213> Unknown (H38g359 nucleotide)

<220>
<223> Synthetic construct

<400> 510
atttgactga aattgatctt tggaaatcct agatagtaat agattttcag atgtgtctat 60
gattattttg tgggactgtc aacccttgct ttatgacacc atcacaactc tcaagatgtc 120
tggcagaagc tggtgactgc atattgtaga gggtttgaca aatgtaatcc aatgtataca 180
cttcacctgc tcactctcct tttgtgcctt catctatagg tttcactctc tgtgacctcc 240

attgctgctg accctgaatt gggtgatagc ttcctccagc agctgctgat ttttcacttt 300
gctctgtata tgattctgac cagactagtt ttgatcctgt tctctgactt gttcatcagc 360
aaggccatct aaacacctgc aaatcaggtc tctaggcaaa gattcctcaa ccttttteta 420
cctttgcctc atgcagaact gcagttcggt tgattgttga gactacagct ttgatctatg 480
tgtgcagcag taggcaagtc ccttacaggg gagagggccg tgaccatgtt ttagactgta 540
gtgaacacca ggctgaccat tccaatttta tagcctgagg aaaaaaaggc aaaggaggcc 600
ctgaggaaag gtcttaataa agccaagttg ttc 633

<210> 511
<211> 945
<212> DNA
<213> Unknown (H38g360 nucleotide)

<220>
<223> Synthetic construct

<400> 511
atgagttcct gcaacttcac acatgccacc tttgtgctta ttggtatccc aggattagag 60
aaagcccatt tctgggttgg cttccccctc ctttccatgt atgtagtggc aatgtttgga 120
aactgcatcg tggtcttcat cgtaaggacg gaacgcagcc tgcacgctcc gatgtacctc 180
tttctctgca tgcttgcagc cattgacctg gccttatcca catccaccat gcctaagatc 240
cttgcccttt tctggtttga ttcccgagag attagctttg aggcctgtct tacccagatg 300
ttctttattc atgccctctc agccattgaa tccaccatcc tgctggccat ggcctttgac 360
cgttatgtgg ccatctgcca cccactgcgc catgctgcag tgctcaacaa tacagtaaca 420
gcccagattg gcatcgtggc tgtggtccgc ggatccctct ttttttcccc actgcctctg 480
ctgatcaagc ggctggcctt ctgccactcc aatgtcctct cgcactccta ttgtgtccac 540
caggatgtaa tgaagttggc ctatgcagac actttgccca atgtggtata tggtcttact 600
gccattctgc tggtcatggg cgtggacgta atgttcatct ccttgtccta ttttctgata 660
atacgaacgg ttctgcaact gccttccaag tcagagcggg ccaaggcctt tggaacctgt 720
gtgtcacaca ttggtgtggt actcgccttc tatgtgccac ttattggcct ctcagtggta 780
caccgctttg gaaacagcct tcatcccatt gtgcgtgttg tcatgggtga catctacctg 840
ctgctgcctc ctgtcatcaa tcccatcatc tatggtgcca aaaccaaaca gatcagaaca 900
cgggtgctgg ctatgttcaa gatcagctgt gacaaggact tgcag 945

<210> 512
<211> 834
<212> DNA
<213> Unknown (H38g361 nucleotide)

<220>
<223> Synthetic construct

<400> 512
atgtatgcct tggccaccct gggtaacctg accattgtcc tcatcattcg tgtggagagg 60
cgactgcatg agcccatgta cctcttcctg gccatgcttt ccactattga cctagtcctc 120
tcctctatca ccatgcccaa gatggccagt cttttcctga tgggcatcca ggagatcgag 180
ttcaacattt gcctggccca gatgttcctt atccatgctc tgtcagccgt ggagtcagct 240
gtcctgctgg ccatggcttt tgaccgcttt gtggccattt gccacccatt gcgccatgct 300
tctgtgctga cagggtgtac tgtggccaag attggactat ctgccctgac caggggggttt 360
gtattcttct tcccactgcc cttcatcctc aagtggttgt cctactgcca aacacatact 420
gtcacacact ccttctgtct gcaccaagat attatgaagc tgtcctgtac tgacaccagg 480
gtcaatgtgg tttatggact cttcatcatc ctctcagtca tgggtgtgga ctctctcttc 540
attggcttct catatatcct catcctgtgg gctgttttgg agctgtcctc tcggagggca 600
gcactcaagg ctttcaacac ctgcatctcc cacctctgtg ctgttctggt cttctatgta 660
cccctcattg ggctctcggt ggtgcatagg ctgggtggtc ccacctccct cctccatgtg 720
gttatggcta atacctactt gctgctacca cctgtagtca accccccttgt ctatggagcc 780
aagaccaaag agatctgttc aagggtcctc tgtatgttct cacaaggtgg caag 834

<210> 513
<211> 957
<212> DNA

<213> Unknown (H38g362 nucleotide)

<220>
<223> Synthetic construct

<400> 513
atgctgggtc cagcttacaa ccacacaatg gaaacccctg cctccttcct ccttgtgggt 60
atcccaggac tgcaatcttc acatctttgg ctggctatct cactgagtgc catgtacatc 120
acagccctgt taggaaacac cctcatcgtg actgcaatct ggatggattc cactcggcat 180
gagcccatgt attgctttct gtgtgttctg gctgctgtgg acattgttat ggcctcctcc 240
gtggtaccca agatggtgag catcttctgc tcgggagaca gctccatcag ctttagtgct 300
tgtttcactc agatgttttt tgtccactta gccacagctg tggagacggg gctgctgctg 360
accatggctt ttgaccgcta tgtagccatc tgcaagcctc tacactacaa gagaattctc 420
acgcctcaag tgatgctggg aatgagtatg gccgtcacca tcagagctgt cacattcatg 480
actccactga gttggatgat gaatcatcta cctttctgtg gctccaatgt ggttgtccac 540
tcctactgta agcacatagc tttggccagg ttagcatgtg ctgaccccgt gcccagcagt 600
ctctacagtc tgattggttc ctctcttatg gtgggctctg atgtggcctt cattgctgcc 660
tcctatatct taattctcag ggcagtattt gatctctcct caaagactgc tcagttgaaa 720
gcattaagca catgtggctc ccatgtgggg gttatggctt tgtactatct acctgggatg 780
gcatccatct atgcggcctg gttggggcag gatatagtgc ccttgcacac ccaagtgctg 840
ctagctgacc tgtacgtgat catcccagcc actttaaatc ccatcatcta tggcatgagg 900
accaaacaat tgctggaggg aatatggagt tatctgatgc acttcctctt tgaccac 957

<210> 514
<211> 966
<212> DNA
<213> Unknown (H38g363 nucleotide)

<220>
<223> Synthetic construct

<400> 514
atgaatgaga caaatcattc ttgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttata ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac ccccatgtac 180
tttctgcttg caaacctgtc atttatagac gtatgtgttg cctcttctgc taccccctaaa 240
atgattgcag actttctggt tgagcacaag actatttctt ttgatgccca cctggcccag 300
attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctccc cactacatga caatcatgag ctgctgtgta 420
tgtgttgtgc tcgtcctcat ttcctggttt gtgggcttca tccataccac cagccagttg 480
gcattcacgt taatctgcca ttttgtggtc ctaataaggt agatagtttt tttctgtgac 540
cttcctctag cgacgaagtt agcctgcata gacacttatg ttgtcagcct actaatagtt 600
gcagatagtg gctttctttc tctgagttcc tttctcctct tggttgtctc ctacactgta 660
atacttgtta cagttaggaa tcgctcctct gtaagcatgg tgaaggccca ctccacattg 720
actgctcaca tcactgtggt cactttattc tttggatcgt gtattttcat ctatgtgtgg 780
cccttcagca gttactcagt tgacaaagtc cttgctgtat tctacaccat cttcacgtct 840
attttaaacc ctgtaatcta catgctaaga aacaaagaag tgaaggcagc tatgtcaaaa 900
ctgaagagtc ggtatcagaa gcttggtcag gtttctgtag tcataagaaa cgttcttttc 960
ctagaa 966

<210> 515
<211> 966
<212> DNA
<213> Unknown (H38g364 nucleotide)

<220>
<223> Synthetic construct

<400> 515
atgctgggtc cagcttataa ccacacaatg gaaacccctg cctccttcct ccttgtgggt 60
atcccaggac tgcaatcttc acatctttgg ctggctatct cactgagtgc catgtacatc 120

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atagccctgt taggaaacac catcatcgtg actgcaatct ggatggattc cactcggcat      180
gagcccatgt attgctttct gtgtgttctg gctgctgtgg acattgttat ggcctcctcg      240
gtggtaccca agatggtgag catcttctgc tcaggagaca gctcaatcag ctttagtgct      300
tgtttcactc agatgttttt tgtccactta gccacagctg tggagacggg gctgctgctg      360
accatggctt ttgaccgcta tgtagccatc tgcaagcctc tacactacaa gagaattctc      420
acgcctcaag tgatgctggg aatgagtatg gccatcacca tcagagctat catagccata      480
actccactga gttggatggt gagtcatcta cctttctgtg gctccaatgt ggttgtccac      540
tcctactgtg agcacatagc tttggccagg ttagcatgtg ctgaccccgt gcccagcagt      600
ctctacagtc tgattggttc ctctcttatg gtgggctctg atgtggcctt cattgctgcc      660
tcctatatct taattctcaa ggcagtattt ggtctctcct caaagactgc tcagttgaaa      720
gcattaagca catgtggctc ccatgtgggg gttatggctt tgtactatct acctgggatg      780
gcatccatct atgcggcctg gttggggcag gatgtagtgc ccttgcacac ccaagtcctg      840
ctagctgacc tgtacgtgat catcccagcc accttaaatc ccatcatcta tggcatgagg      900
accaaacaac tgcgggagag aatatggagt tatctgatgc atgtcctctt tgaccattcc      960
aacctg                                                                 966
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<210> 516
<211> 942
<212> DNA
<213> Unknown (H38g365 nucleotide)

<220>
<223> Synthetic construct

<400> 516

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atggaggggt tcaactattc cagagtatct gaattcatgt tacttggact tactgattct       60
cctgaactcc agatattctt ttctgtggtg ttttctgtct tctatttaat gaccatgttg      120
ggcaactgcc tgattttgct cactgtccta tccacctcac accttcactc tcgcatgtac      180
ttcctgctca gcaacatgtc tcattgacat gtgcctgtcc tcctttgcca caccaaagat      240
gattatggac tttttttgctc tgcgtaagac catctctttt gaaggctgca tttctcagat      300
cttttttta cacctcttca atgggactga gattgtgctg ttgatctcca tgtcttttga      360
caggtatatt gccatatgta aacctctcca ctattcaaca attatgagcc aaagagtgtg      420
tgttgagctt gtggcagttt cttgttggac agtgggcttt ctacatacaa tgagccaatt      480
agtttttccc tctatttgcc cttctgtgtt cccaatgttg tagacagttt tttctgtgat      540
cttcctttgg tcatccagtt agcttgtata gatatttatg ttcttgggac ctccatgatt      600
tcaaccagtg gtgtgattgc tcttataagt tttctgcttt tgctcacctc ctacatcatt      660
gttcttaata ttgtcaggga ctactcctcc acaggatcct ccaaggctct ttctacctgt      720
acagcgcatt ttattgttgt gttaatgttc tttgggccct gtattttcat ttatgtgtgg      780
ccttccacaa acttcctggt agacaaaatt ctctccgttt tctataccat cttcactccc      840
tttctgaatc cacttatcta tactttgaga aaccaggaag tgaagacagc aatgaagaag      900
aaactgaata ttcagtattt cagtcttggg aaaactgctc cg                         942
```

<210> 517
<211> 952
<212> DNA
<213> Unknown (H38g366 nucleotide)

<220>
<223> Synthetic construct

<400> 517

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atgctcactt ttcataatgt ctgctcagta cccagctcct tctggctcac tggcatccca       60
gggctggagt ccctacacgt ctggctctcc atcccctttg gctccatgta cctggtggct      120
gtggtgggga atgtgaccat cctggctgtg gtaaagatag aacgcagcct gcaccagccc      180
atgtactttt tcttgtgcat gttggctgcc attgacctgg ttctgtctac ttccactata      240
cccaaacttc tgggaatctt ctggttcggt gcttgtgaca ttggcctgga cgcctgcttg      300
ggccaaatgt tccttatcca ctgctttgcc actgttgagt caggcatctt ccttgccatg      360
gcttttgatc gctacgtggc ccatctgcaa cccactacgt catagcatgg tgctcactta      420
tacagtggtg ggtcgtttgg ggcttgtttc tctcctccgg ggtgttctct acattggacc      480
tctgcctctg atgatccgcc tgcggctgcc cctttataaa acccatgtta tctcccactc      540
ctactgtgag cacatggctg tagttgcctt gacatgtggc gacagcaggg tcaataatgt      600
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ctatgggctg agcatcggct ttctggtgtt gatcctggac tcagtggcta ttgctgcatc 660
ctatgtgatg attttcaggg ccgtgatggg gttagccact cctgaggcta ggcttaaaac 720
cctggggaca tgcgcttctc acctctgtgc catcctgatc ttttatgttc ccattgctgt 780
ttcttccctg attcaccgat ttggtcagtg tgtgcctcct ccagtccaca ctctgctggc 840
caacttctat ctcctcattc ctccaatcct caatcccatt gtctatgctg ttcgcaccaa 900
gcagatccga gagagccttc tccaaatacc aaggatagaa atgaagatta ga 952

<210> 518
<211> 301
<212> DNA
<213> Unknown (H38g367 nucleotide)

<220>
<223> Synthetic construct

<400> 518
cagatgctga cagattggtg gggacctaat aggaccacaa gttacgtgaa ctcaccattc 60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt 120
atatgccatc ctttgtaata tttgttaatc atgaacctat atctcctcct taatcttact 180
ttaatacttg agggataatt cattcatttt tggcatcatg tatactctca tcctaaaaat 240
tccaaggatg aaaaaaaaaa accttcagat aattcccctc attggttgct gccttgctga 300
a 301

<210> 519
<211> 506
<212> DNA
<213> Unknown (H38g368 nucleotide)

<220>
<223> Synthetic construct

<400> 519
aatagtgagt ccaagcattt cttactctta aaattgtgtt caatgtttgc agtcactttc 60
ctatccctga tattatcagg aaagggcctg caatttcctt tctacttctc tgagtcaact 120
gcaaagtctc agatgttttc acagttgaga caagagaaca agaagcacca atgaaaacca 180
cggggttcta tggaggcatc atggtgtggt gagtagaagc atgctactct agctgtatct 240
cactgggttc aaatcctgac tatacggcat atggtgcatt aacagcccgc tgaccacaag 300
aatttctatg ctggtaaaat aggtttataa taatgccagt caatctaaag atgctttaag 360
tgaagactat ttggtgtttt tcaaggactc aataatcatt aactgtgatc acgatctttc 420
ccttacctac tttcaataag taaataattt acatttatta aacaaaagaa atttaatctt 480
gcttttctga aacaacacaa ttctat 506

<210> 520
<211> 837
<212> DNA
<213> Unknown (H38g369 nucleotide)

<220>
<223> Synthetic construct

<400> 520
ctccctcccc tgttttttag agtttttgta attttggttt gtttcactac tctttgttaa 60
gctatgcatt ctctttctaa ttattctact tgttaaattt ttattaaaaa caaaaatagc 120
aatgacatat tttacatatt tatctaatta taagctcaaa gcatgaaata gtattgactt 180
ccacatacat atgtttgtgt acgtgtatat tatgaataaa ttagttcatc tcaaatatga 240
aactttaaca tctttaccat ttttttggaa tagtctagga ttttagacac ttcttaattt 300
tgttttacct tttatgtcac atattcttca ttaatagtta ttaatatgtt gtattttcta 360
gctgttcttg caaaaagtag ttttatttta tgtttcaaca gtctcagcgt caactgtgac 420
actttctgtg tttggctttc ttgttttgga attgtttatc ttgatgtgca tcccattgca 480
cattgttatg tttctcaaaa gattatttaa atgttatgtg tttttatgat cactcgtttt 540
ttgcttcatg catgcattat tgccttaaac attaaaaaat acttgttttg atgtgctttt 600

tatctttata tgtgaaaaat ctttgctggc taatatgtct tttgtcacaa ttgtttcctc 660
cttaattctc ttaacgaatt aagagattat ttcattttct tctgtcattt tatgtggtac 720
aatacatctg aatctgtcct cattttctt acataggttt ttcattttct ttttctgctt 780
gaaattgcca acatatatct aaatgttgac ctacttagta ttatactgac tttggta 837

<210> 521
<211> 461
<212> DNA
<213> Unknown (H38g370 nucleotide)

<220>
<223> Synthetic construct

<400> 521
tgcaccatgt gtgtttggct cttagcttga gacaggcaaa tccacataca ctcacattcc 60
aacaagccaa agcaagtcac ccaccccatt gcttctggga caaggatgta cattcctcct 120
gggcgtgggg gtgcgggtac cgcaagggga ataaattttt cctgagctac gatacactct 180
cccaccaaaa gtcatacacc catttagata acaacttttc ttgagtagtt cagatatcat 240
caatgatcca catattgata aacatgactc gacactaata acactgtgag cattttacac 300
tattttctat aaactccact atgctccatt tattctcaga aattctctct atgatatact 360
tcatgggcac aaagaagaat gagtgaaagc cacgcaaaaa ggactgtgaa agccactaaa 420
aagggctgga ataaatggga caaatcatca tactcttcta t 461

<210> 522
<211> 554
<212> DNA
<213> Unknown (H38g371 nucleotide)

<220>
<223> Synthetic construct

<400> 522
cctgctcacc cccgttcccc ccaccaccct ctctttcccc cttacatcta cccaaaaact 60
ttttccccac catctttccg caaaaccttc tctccctcct gttcaccacc gtttttcccc 120
ctccacctac ccccaacatt ttttccccac cgtcttttcc tcactgtctt ttttgcaaca 180
ccttctcctg ctcgccatcc tcttttccct ttggcactaa ccaccctctt tactcctcca 240
tctaccccaa aactattttc cccttcctac cgctccagcc acactgcagt ctccgtcgct 300
gccaccaacc gcagcgaggc gagctgtggt gccgcagcca cagcctccag catgcagcgg 360
tggctagccc ttgtcctggt cctctaagcc gggaacggag cagccccgcg cgcagacacg 420
catgagccta gaacggcctg acaccccttc agcaccattt atatactgag gttatgcata 480
tgaggttcct ggactacatg ttccaggatt gggtaagaga aaacgcagag gcctactctg 540
attggacttt gtta 554

<210> 523
<211> 424
<212> DNA
<213> Unknown (H38g372 nucleotide)

<220>
<223> Synthetic construct

<400> 523
tatatagaaa tggacaacta ttttctaaca taactataac gatatttact atttttccat 60
tttataatct ctactcaata ttttggtatt aaaaaattca tcctaacttc tttgttggct 120
tattgttttt gatgttcagc attactaaat ttttgactta tggtttgaaa tggctgctca 180
ttcctgattg ctgatcctgg tatcaacatg cctgatttaa cccttaacaa attctattct 240
tacaaaatag ctgaagttgg ttggaggttt atttttacca tttcttttat ttgctgtccc 300
ttttgataaa attattttcc ttagttaaaa aatgtattta aataagtaaa taatatctgt 360
gctagttggt actcggtgga catttcagag gtgtgtccat actttatgta ttttatcact 420
gttt 424

<210> 524
<211> 246
<212> DNA
<213> Unknown (H38g373 nucleotide)

<220>
<223> Synthetic construct

<400> 524
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aatgtattta ggtaatttct tgacttctgc agggactctg atatacacag agcgtacctg      60
tgtatactgt ccagttagct cagattctca gttttgggca ttttctaagg gagggcaatg     120
aacatcctga taggtttaac taaggtttta aaatgtccaa ttttatgtgt ggtttttaac     180
cacacctgca tcctaattac gaccttggct gttatagctt ataggtttag gcaatctgga     240
tatagt                                                                246
```

<210> 525
<211> 619
<212> DNA
<213> Unknown (H38g374 nucleotide)

<220>
<223> Synthetic construct

<400> 525
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gaaattatat tgattgggat ttctctcaaa ctaatctagt tgtattcacc attattaaaa      60
ttaagtgaca ctcaattgga ctaagtagca ataaaaatat gagacttcct agtgattttt     120
ttttatccca agccatttac tactgatggg ccttgatgtg tgtgcttgaa aacaaaacat     180
atgcaagtgt tagactggtt tgaagatttg ggtggtgaaa gttagctaat tagatgtcag     240
tgctctatct agaagccaat cttggaaata tgtgataatg cccttttaaa atagctgaaa     300
agaaattatt ttgtgtttgt tttcacttca ttcttgtttg gttgtatagc atttaagtga     360
aaggagattt tttatcctta tactagtatt tgcatttacc atcttttaat gatggagaga     420
aaagttagtt gtcttacttt gatatgtttg gcataggacc tatgacactt ttgatgtttt     480
tggtcacagt tctgtcacta gaatgctagc aattagatat atgcaatgag taacctactt     540
taatacaatg gtttgaagta ccacaggcag taactcctaa acaccaaatc acagtgtttt     600
aatttgtaac atgttaaag                                                  619
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<210> 526
<211> 939
<212> DNA
<213> Unknown (H38g375 nucleotide)

<220>
<223> Synthetic construct

<400> 526
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atgagaaatt tgagtggagg ccatgtcgag gagtttgtct tggtgggttt ccctaccacg      60
cctcccctcc agctgctcct ctttgtcctt ttttttgcaa tttaccttct gacattgttg     120
gagaatgcac ttattgtctt cacaatatgg cttgctccaa gccttcatcg tcccatgtac     180
tttttccttg gccatctctc tttcctggag ctatggtaca tcaatgtcac cattcctcgg     240
ctcttggcag cctttcttac ccaggatggt agagtctcct acgtaggttg catgacccaa     300
ctgtacttct ttattgcctt agcctgtact gaatgtgtgc tgttggcagt tatggcctat     360
gatcgctacc tggccatctg tggacccctc ctttacccta gtctcatgcc ttccagtctg     420
gccactcgcc ttgctgctgc ctcttggggc agtggcttct tcagctccat gatgaagctt     480
ctttttattt cccaattgtc ctactgtgga cccaacatta tcaaccactt tttctgtgat     540
atttccccac tactcaacct cacctgctct gacaaggagc aagcagagct agtagacttc     600
cttctggccc tggtgatgat tctactccct ctattggctg tggtttcatc atacactgcc     660
atcattgcag ccatcctgag gatccctacg tccaggggac gccacaaagc cttttccact     720
tgtgccgctc atctggcagt ggttgttatc tactactcct ccactctctt cacctatgca     780
cggccccggg ccatgtacac cttcaaccac aacaagatta tctctgtgct ctacactatc     840
attgtaccat tcttcaaccc agccatctac tgcctgagga acaaggaggt gaaggaggcc     900
ttcaggaaga cagtgatggg cagatgtcac tatcctagg                            939
```

<210> 527
<211> 965
<212> DNA
<213> Unknown (H38g376 nucleotide)

<220>
<223> Synthetic construct

<400> 527
cacacagagc cactgaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctctccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactccca cctccacacc 180
cccatgtact tcttcctctc caacctgtgc tgggctgaca tcggttacac ctcggccacg 240
gttcccaaga tgattgtgga cacgcagtcg catggcagag tcatctctca tgctggctgc 300
ctgacacaga tgtctttctt ggtccttttt gcatgtatag aagacatgct cctgactgtg 360
atggcctatg actgctttgt agccatctgt tgccctctgc actacccagt catcgtgaat 420
cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttagcctgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcacc atcatcaaga atgtggaaat ctctaatttt 540
gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatagcata 600
ttcatatatt ttgatagtac tatgtttggt tttcttccca tttcagggat ccttttgtct 660
tactctaaaa ttgtcccctc cgttctaagg atgtcatcgt cagatgggaa gtataaagcc 720
ttctccacct gtggctctca cctagcagtt gtttgctgat ttgatggaac aggcattggc 780
atgtacctga cttcagctgt ggcaccaccc cccaggaatg gtgtcgtgga gtcagggatg 840
tacgctgtgg tcacccccat gctgaacctt ttcatctaca gcctgagaaa caggcacaca 900
caaagtgccc tgcggaggct gcgcacagaa cagttgaatc tcatgatctc ttgcatcctt 960
tttct 965

<210> 528
<211> 557
<212> DNA
<213> Unknown (H38g377 nucleotide)

<220>
<223> Synthetic construct

<400> 528
ccagtacccc agcatctgtt cttcttcctg aaagtgactg gccaccattg acctaaatca 60
gaaacctatg atttgtccca gatttttctt tttcccttgc tcttcatatc tatcagtgat 120
actaattcta aactaacctt aacgaactgc atctgtgccc ctctctcatc tctcctccct 180
cactttcagt gcattgactg aggctacacc atgtgaatta ttaccatggc atgctaacag 240
aattattgct tccaatggta ccatgccata attcatcctt catatggttg ccaataaatt 300
tttaaaatat ttatttgtat ctgctacttc tcaggttaaa agcttcccag catgttgaag 360
atggaatgca aacagctctg catgcatgcc ctttgctcat gcagctccta ttgtccatcc 420
cccactctta cccactcttg ctggataatt cctttttatt cttaagactt catccaagaa 480
gcaagctctc atatttcctt catatacttc tgtcatagcc ctttacatat gttaatcatc 540
tgttaccttt tctcttg 557

<210> 529
<211> 1007
<212> DNA
<213> Unknown (H38g378 nucleotide)

<220>
<223> Synthetic construct

<400> 529
tctagagacc cacagaatct aacagatgtc tctatattcc tcctcctaga agctcagagg 60
atccagaacg gcagccggtc ctcactgggc tgttcctgtc cacgtgcctg gtcatggcgc 120
tggggaacct gctcatcatc ctggccatca gccctgactc ccacctccac acccccatgt 180
acttcttcct ctccaacctg tccttgcctg acatcagttt cacctccacc acagtcccca 240

agatgactgt ggacatccaa tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagacag acatactcct gagtgtgatg 360
gcctatgacc agtttgtagc caaatgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gctttctact tttgttgtct tttttttttc cctcagtctt ttagatgccc 480
agctgtacaa tttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attcctaatt 540
tcttctgtga cccttctcaa ctcccccatc ttgcatgttg tgacaccttc aacaataaca 600
taatcctgta tttccctgat gccatatttg gttttcttcc catctcgggg acacttttct 660
cttacgataa aattgtttcc tccattctga gggtttcatc atcaggtggg aagtataaag 720
ccttctccac ctatgggtct cacctgtcag atgtttcctg attttatgga acaggcgttg 780
gagggtacct cagttcagat gtgtcatctt ccccgagaaa gactgcagtg gcctcagtga 840
tgtacgcagt ggtcaccccc atgatgaacc ccttcatcta cagtccgaga aacagggata 900
tgaaaagtgt cctgcggcgg ccgcacggca gcacgttcta atctcaatac cttcttatct 960
gttccattcc ttttgcagtg tgggtcgaaa aaggctgcat gatgaaa 1007

<210> 530
<211> 471
<212> DNA
<213> Unknown (H38g379 nucleotide)

<220>
<223> Synthetic construct

<400> 530
tttttaaaaa tgagattaaa ggaattaatg taagatagaa ccataatgga ttattggagg 60
gaaggtaggc acatttaggg gatgttcttg gcctttccgt ttggctgacc tatcccaaaa 120
cttttcctct gggtctctat cagagacatg gcagtaacct ggatggacca taggcacgag 180
tcctgtagcc cattcctccc gaagctgcag ccttttttcat cctgccatgt atctgagtta 240
tgcacgtgcc ttgacacctt cactaaatca tatataactt gaatccgggg actcaagggt 300
ttcaaccatc tttgttttct tctccattac tgtcactgtg ctagagccca agtctcctga 360
aatgcgccct ggagccttgc tcaaagatgt caacccaaca tgctgatcag gtagctattt 420
tgtctgaagc tggtagttca tgacaggctc tgacatgtgc tgagcttgct c 471

<210> 531
<211> 974
<212> DNA
<213> Unknown (H38g380 nucleotide)

<220>
<223> Synthetic construct

<400> 531
atgaagatca accagacaat cctgaaggaa ttcattcttg ttggcttttc tgtgtaccca 60
catgtacaga catttctttt tgtggtcttc ttttgtctct accttctcac ccttgcaggt 120
aatctgacca tcatgggtct aacttgagtg gacaggtccc tccacacccc tatgtatctc 180
ttccttagtg cactctcctt ctctgagacc tgctatacac tgaccatcgt ccccaagatg 240
ctggaagatc tactggccaa ggacagaagc atttcagtca caggttgtag cttacagatg 300
tgcttcttct tgggacttgg tggcacaaac tgtatcattc tcactttgat gggatatgac 360
cgcttcctgg ccatttgtaa ccctctaaga tatccactgc ttatgaccaa cattgtatgt 420
ggacaacttg tggcctctgc ttgcactgca ggcttcttta tctctcttac agagactgca 480
ctgatattca gggactcttt ctgcagaccc aaccttgtca aacacttctt ctgccatatg 540
ctggcagtta ttaggctgtc ttgtatagac agtaaccaca cagaattcat tataacactg 600
atctcagtgt ctggtttgct gggtaccctt ctgctcatca tcctgactga tgtcttcatt 660
atttctactg tcctcaggat cccttcagct gagggcaagc agaaggcctt caccacctgt 720
gcctcccacc tcaccgtggt tataatccac tttggttttg catctattgt ttatttgaag 780
ccagaagcct caggagatga cacactcata gcagtccctt atactgtcat tacccccttc 840
ctcagcccca tcatattcag cctgaggaat aaggacatga aaaatgcttt tagaagaatg 900
atgggaaaca cagttgcctt gaaaaaataa tcttgggttg ttgctgcttg tttgaagaag 960
ggctcaatgt cccc 974

<210> 532
<211> 939

<212> DNA
<213> Unknown (H38g381 nucleotide)

<220>
<223> Synthetic construct

<400> 532
atggggcaga ccaacgtaac ctcctggagg gattttgtct tcctgggctt ctccagttct 60
ggggagttgc agctccttct ctttgccttg ttcctctctc tgtatctagt cactctgacc 120
agcaatgtct tcattatcat agccatcagg ctggatagcc atctgcacac ccccatgtac 180
ctcttccttt ccttcctatc cttctctgag acctgctaca ctttgggcat catccctaga 240
atgctctctg gcctggctgg gggggaccag gctatctcct atgtgggctg tgctgcccag 300
atgttctttt ctgcctcatg ggcctgtact aactgcttcc ttctggctgc catgggcttt 360
gacagatatg tggccatctg tgctccactc cactatgcca gccacatgaa tcctaccctc 420
tgtgcccagc tggtcattac ttccttcctg actggatacc tctttggact gggaatgaca 480
ctagttattt tccacctctc attctgcagc tcccatgaaa tccagcactt tttttgtgac 540
acgccacctg tgctgagcct agcctgtgga gatacaggcc cgagtgagct gaggatcttt 600
atcctcagtc ttttggtcct cttggtctcc ttcttcttca tcaccatctc ctacgcctac 660
atcttggcag caatactgag gatcccctct gctgaggggc agaagaaggc cttctccact 720
tgtgcctcgc accttacagt ggtcattatt cattatggct gtgcttcctt cgtgtacctg 780
aggcccaaag ccagctactc tcttgagaga gatcagctta ttgccatgac ctatactgta 840
gtgacccccc tccttaatcc cattgtttat agtctaagga ctagggctat acagacagct 900
ctgaggaatg ctttcagagg gagattgctg ggtaaagga 939

<210> 533
<211> 866
<212> DNA
<213> Unknown (H38g382 nucleotide)

<220>
<223> Synthetic construct

<400> 533
cttttgtttt ttatccttct gctcctcatt tacctattca ccatcattgg tagtcttatg 60
gtgttctttg ccatcaaact ggatttctgc ctgcacagct ccttgtattt cttcatcagt 120
gtcctctcct tcctagagat ctggtatacc accatcacca tccccaagat gttcttcaac 180
ctagccagtg agcagaagac cacctccctg gatggttgcc tattgcagat gtatttcttt 240
tactccctcg gcatcactga ggtttgcttg ctcaccacca gggctatgga cagatacctg 300
gccatctgta atcacctttg ctaccccaca gtcacgacac cttagctcta cactcaggtg 360
attctaggtt gttgcatctg tggcttcttc acgctgctcc ctgagattgc ttggatatcc 420
acactgccat tttgtggtcc aaatcaaatc cacaacattt tctgtgacct tgatcctatc 480
ctgaatctag catgtgtaga cactggccca gttgttttaa tcaaggttgt ggacattgta 540
catgctgtgg agatcatcac agctataatg cttgtgactt tggcttacgt ccaaattatt 600
gcagtgatcc taagaaactg ctctgctgat ggatgccaaa aggcattttc tacctatgct 660
ttccaccttg ctattttctt aatctttttt ggaagtgtag ccctgatgta cctgctcttc 720
tctgccaagt actccttttt ctgggacaca accatcagcc taatgtttgc agtgctgtca 780
ccgacacaat catctgtagt ctgaggaata aagagataaa ggaagcaata aaaaagcaca 840
tgtgccaatc aatgatatgc acacat 866

<210> 534
<211> 954
<212> DNA
<213> Unknown (H38g383 nucleotide)

<220>
<223> Synthetic construct

<400> 534
atggagagcc ccaatcgaac caccattcag gagtttatct tctccgcttt cccttattcc 60
tgggttaagt ctgttgtctg ctttgttcca ctgctcttca tctatgcttt cattgttgtt 120
ggaaacctgg tcatcatcac agtggtccag ttgaatactc acctccacac tcccatgtat 180

```
acttttatca gtgctctttc tttcctggag atttggtata ccacagccac aatcccaaag      240
atgctgtcta gcctgcttag tgagaggagc atttccttca atggttgtct cctgcagatg      300
tatttcttcc attccaccgg catctgtgag gtgtgtctct tgacagttat ggcctttgac      360
cactacctgg ccatatgcag ccctcttcat tatccctcta tcatgacccc caagctatgt      420
acccaactga ctttaagttg ctgtgtttgt ggctttatca cacccccttcc tgagattgcc     480
tggatctcta cactgccatt ttgtggttcg aatcaccttg aacatatctt ctgtgacttc      540
ctcccagtgc tgcgtctggc ctgcacagac acacgagcca tcgtcatgat tcaggtagtg      600
gatgtcattc atgcagtgga gattattaca gctgtgatgc tcatcttcat gtcctacgat      660
ggtattgtgg ctgtaattct acgtattcat tcagctggag gccgccgcac agcattttcc      720
acgtgtgtct ctcacttcat tgtcttttcg ctcttctttg gcagtgtgac tctcatgtac      780
ctacgcttct ctgccaccta ctctttgttc tgggatatag ccattgctct ggcctttgca      840
gttttgtctc ccttcttcaa ccccattatc tatagcctga ggaataaaga aataaaagaa      900
gctataaaaa agcacatagg tcaagctaag atattttttt ccgtaagacc aggg            954
```

<210> 535
<211> 386
<212> DNA
<213> Unknown (H38g384 nucleotide)

<220>
<223> Synthetic construct

<400> 535
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ctactgaaac tctcctgctc agacacacac ctcaatgagg tcataatcct tagtgagggt       60
gccctggtca tgatcacccc atttctttgc atcctggctt cttatatgca catcacctgc      120
actgtcctga aggtcccatc cacaaaggga aggtggaaag ccttctccac ctgtggttct      180
cacctggctg tggttctcct cttctacagc accatcattg ctgtgtattt taaccctctg      240
tcctcccact cagctgagaa agacactatg gctactgtgt tgtatacagt agtgactccc      300
atgctaaacc ctttatctac agcctgagga acaggtactt gaaaggggct ctgaaaaaag      360
tagttggcag ggtggtgttt tctgtc                                           386
```

<210> 536
<211> 486
<212> DNA
<213> Unknown (H38g385 nucleotide)

<220>
<223> Synthetic construct

<400> 536
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ctgctcatca tcccagccat tgccactgac acccggctct ctgtgctcgt gcgctttttc       60
cttgccaacc tggccttcgt ggtcacttgc ttcacctcca ccaccatccc caagatgctg      120
gacgtgcaaa gagatccctt gtgtcatgtc aggatgcaaa gggattcctt atgctggttg      180
cctgacccag atgctcttct tcatctgtta ggcatccaca gcttcctgct gactgcaatg      240
gccaatgaac actgtgtggc catctgtcac tctctgaact ccatcaggtc tgtgacacca      300
tagctctgtg gcctcctggt ggtggcctcc tggaccttcg cattcaggaa tgccctgacc      360
cacccagtgt tactgacccg cctctcactc tgcacctacg agtgggtcag ccatgtcttc      420
tgcaacctca gccagctgct gaagttggcc tgctcagacg ccactctcaa caatgtgacg      480
gtgcaa                                                                 486
```

<210> 537
<211> 980
<212> DNA
<213> Unknown (H38g386 nucleotide)

<220>
<223> Synthetic construct

<400> 537
```
atgttaaccc ctaataatgc ctgctccgtg cctacctctt tccggctcac tggcatccct       60
ggcctggaat ccctgcacat ctggctctcc atccccttg gctccatgta cctggtagct      120
```

```
gtgctgggga acataaccat cctggcagtg gtaaggatgg agtacagcct gcatcagccc    180
atgtacttct tcctgtgcat gttggctgtc attgacttgg tcctgtcaac ctctaccatg    240
cccaaactac tggccatctt ctggtttggt gcccacaaca ttggtgttaa tgcctgtttg    300
gcccagatgt tcttcattca ttgctttgcc actgttgagt caggcatctt ccttgccatg    360
gcttttgatc actatgtggc catctgtgac ccactgcatc ataccttgtt gctcacccat    420
gctgtggtgg gtcgtttggg gctggctgcc ctcctccggg gggtaatcta cattggacct    480
ctgcccctag tgatttgtct gaggttgccc ctttaccaca cccaaatcat tgcccattcg    540
tactgtgagc acatggctgt ggtcaccttg gcatgtggtg tgacacaagg gtcaacaact    600
tatatggaat ggggattggc tttctggtat taatcctgga ttcattggcc atcactgcct    660
cctatgtgat gattttcagg gctgtaatgg gcttggccac ctctgaagcc aggcttaaaa    720
ccttagggac atgtggctct cacatctgtg ccatcctcgt cttctacatc cccattgctg    780
tttcctctct cacacaccgc tttggccatc gtgtgcctcc ccatatccat atccatatcc    840
atatccatat ccatatccat atccttttgg ccaacattta cctcctcatc ccacctatcc    900
tcaacccaat agtctatgct gtccgcacaa agcagatccg agaggctctt ctccatatta    960
aggcaaggac tcaaaccagg                                                 980
```

<210> 538
<211> 967
<212> DNA
<213> Unknown (H38g387 nucleotide)

<220>
<223> Synthetic construct

<400> 538

```
gtagcctgct acctccctga gctgtagtgg gatgtccagg gggtaaagag aatgagacag     60
gagttggcga gttcctcttg ctcagcatca ccagtgactc agagaagcag caggccctct    120
tctggctctt cctgtgtatg cacttagtca ctgaggctgg aaacacaccc atcatcctgg    180
gcatcggctc caaccctcgc ctgcacaccc ccacgtactt cttcacccat ctctcctttg    240
tcaacatctg cttcatcacc aacctgatcc ccaagctcct ggtcaaccat gtggcaggaa    300
cagggatgat cacgatctct tctccccagt gcctgactca gatgtacttc ctcatctcct    360
ttgccaacgt ggacaccttt ctgctggcca tcatggcact ggaccactat gtggccatct    420
gcagcgccct gcggtactgc tccatcatca cccccggctc tgtcaggggc tggccgtgct    480
agcgtgagca ggctccagcc tcatctccct ggtccacacg gtcatcatga gcagactggc    540
cttctgctcc tccgcccaga tttcacactt ctactgtgac gcctacctgc tcatgaagat    600
tgcctgctca catacatgtc aatcagcatg tgttcctggg ggccgtggtc ctgttcctgg    660
ctccctgtgc gctcatcttg gtctcctaca tccgcattgc tgcagccatc ctccggattc    720
cctctcctac aagaaggcgc aaggcatgtt ccatatgtag ctcccacctg tctctggtca    780
ccctgttcta tggaactgtc ctggggatct gcatatgacc cccagactcc ttctcagccc    840
aggacaccat agcaaccatc atgtacactg tggtgacctc tatgctaaac cccttcatct    900
acagtctgat gaacaaggag gtccaggagg ccgtgagaag gctcttcagt aggggctcac    960
actcatc                                                               967
```

<210> 539
<211> 603
<212> DNA
<213> Unknown (H38g388 nucleotide)

<220>
<223> Synthetic construct

<400> 539

```
cttcattttt gtgggataga tgtgacctca taccaggctt gacagatatt ggcatagcaa     60
cccctacgac actacataat gtgggcaacg cattgtcgca ttatgctgtc gcatgggaat    120
tgctttctcc attcgttgag ccagttggcc tttgccgtgc acttaccctt ctgtggtccc    180
aatgagttcg atagttttta ttgtgacctt cctagggtaa tcaaacttgc ctgtacagat    240
acctacaggc tagatattat ggtcattgct aacagtggtg tgctcactgt gtgttctttt    300
gttcttctaa tcatctcata cactatcatc ctaatgacca tccagcatcg ccctttagat    360
aagtcgtcca aagctctgtc cactttgact gctcacatta cagtagttct tttgttcttt    420
ggaccatgtg tctttattta tgcctggcca ttccccatca agtcattaga taaattcctt    480
gctgtatttt attctgtgat cacccctctc ttgaacccaa ttatatacac actgaggaac    540
```

aaagacatga agacggcaat aagacagctg agaaaatggg atgcacattc tagtgtaaag 600
ttt 603

<210> 540
<211> 935
<212> DNA
<213> Unknown (H38g389 nucleotide)

<220>
<223> Synthetic construct

<400> 540
atgctcactt ttcataatgt ctgctcagta cccagctcct tctggctcac tggcatccca 60
gggctggagt ccctacacgt ctggctctcc atcccctttg gctccatgta cctggtggct 120
gtggtgggga atgtgaccat cctggctgtg gtaaagatag aacgcagcct gcaccagccc 180
atgtactttt tcttgtgcat gttggctgcc attgacctgg ttctgtctac ttccactata 240
cccaaacttc tgggaatctt ctggttcggt gcttgtgaca ttggcctgga cgcctgcttg 300
ggccaaatgt tccttatcca ctgctttgcc actgttgagt caggcatctt ccttgccatg 360
gcttttgatc gctacgtggc catctgcaac ccactacgtc atagcatggt gctcacttat 420
acagtggtgg gtcgtttggg gcttgtttct ctcctccggg gtgttctcta cattggacct 480
ctgcctctga tgatccgcct gcggctgccc ctttataaaa cccatgttat ctcccactcc 540
tactgtgagc acatggctgt agttgccttg acatgtggcg acagcaaggt caataatgtc 600
tatgggatga gcatcggctt tctggtgttg atcatggaat cagtggatag tgatgcatca 660
taggtgagga gtatcagggc cgtgatgggg ttagccaatc atgaggatag gattagagac 720
catggggaca ggcgaatatc acatatgtgc catcatgata ttataggatc ccagtgatgt 780
atattccatg agatcaccga gatggtcagt gtgtgcatca tccagtccac aatatgatgg 840
ccaggatata tatcatcagt catccaagca tcaagcccag tgtataggat gatcgcacca 900
agcagagccg agagagctat atccaaagag caaga 935

<210> 541
<211> 945
<212> DNA
<213> Unknown (H38g390 nucleotide)

<220>
<223> Synthetic construct

<400> 541
atggagacgt gggtgaacca gtcctacaca gatggcttct tcctcttagg catcttctcc 60
cacagtactg ctgaccttgt cctcttctcc gtggttatgg cggtcttcac agtggccctc 120
tgtgggaatg tcctcctcat cttcctcatc tacatggacc ctcaccttca cacccccatg 180
tacttcttcc tcagccagct ctccctcatg gacctcatgt tggtctgtac caatgtgcca 240
aagatggcag ccaacttcct gtctggcagg aagtccatct cctttgtggg ctgtggcata 300
caaattggcc tctttgtctg tcttgtggga tctgaggggc tcttgctggg actcatggct 360
tatgaccgct atgtggccat tagccaccca cttcactatc ccatcctcat gaatcagagg 420
gtctgtctcc agattactgg gagctcctgg gcctttggga taatcgatgg cttgatccag 480
atggtggtag taatgaattt cccctactgt ggcttgagga aggtgaacca tttcttctgt 540
gagatgctat ccttgttgaa gctggcctgt gtagacacat ccctgtttga gaaggtgata 600
tttgcttgct gtgtcttcat gcttctcttc ccattctcca tcatcgtggc ctcctatgct 660
cacattctag ggactgtgct gcaaatgcac tctgctcagg cctggaaaaa ggccctggcc 720
acctgctcct cccacctgac agctgtcacc ctcttctatg ggcagccat gttcatctac 780
ctgaggccta ggcactaccg ggcccccagc catgacaagg tggcctctat cttctacacg 840
gtccttactc ccatgctcaa ccccctcatt tacagcttga ggaacaggga ggtgatgggg 900
gcactgagga aggggctgga ccgctgcagg atcggcagcc agcac 945

<210> 542
<211> 975
<212> DNA
<213> Unknown (H38g391 nucleotide)

<220>

<223> Synthetic construct

<400> 542
atgggaagat gggtgaacca gtcctacaca gatggcttct tcctcttggg catcttttcc 60
cacagccaga ctgaccttgt cctcttctct gcagttatgg tggtcttcac agtggccctc 120
tgtgggaatg tcctcctcat cttcctcatc tacctggacg ctggacttca cacccccatg 180
tacttcttcc tcagccagct ctccctcatg gacctcatgt tggtctgtaa cattgtgcca 240
aagatgcagc caacttcctg tctggcagaa gtccatctcc tttgtgggct gtggcataca 300
aattggcttt tttgtctctc ttgtgggatc tgaggggctc ttgctgggac tcatggctta 360
tgaccgctac gtggccgtta gccacccact tcactatccc atcctcatga atcagagggt 420
ctgtctccag attactggga gctcctgggc ctttgggata atagatggag tgattcagat 480
ggtggcagcc atgggcttac cttactgtgg ctcaaggagc gtggatcact tttctgtga 540
ggtacaagct ttattgaagc tggcctgtgc agacacttcc ctttttgaca ccctcctctt 600
tgcctgctgt gtcttcatgc ttctccttcc cttctccatc atcatggcct cctatgcttg 660
catcctaggg gctgtgctcc gaatacgctc tgctcaggcc tggaaaaaag ccctggccac 720
ctgctcctcc acctaacagc tgtcaccctc ttctatgggg cagccatgtt catgtacctg 780
aggcctaggc gctaccgggc ccctagccat gacaaggtgg cctctatctt ctacacagtc 840
cttactccca tgctgaaccc cctcatttac agcttgagga atggggaggt gatgggggca 900
ctgaggaagg ggctggaccg ctgcaggatt ggcagccagc actgaacccc agagtctggt 960
gcctgctgtg cccct 975

<210> 543
<211> 942
<212> DNA
<213> Unknown (H38g392 nucleotide)

<220>
<223> Synthetic construct

<400> 543
atgggggatg tgaatcagtc ggtggcctca gacttcattc tggtgggcct cttcagtcac 60
tcaggatcac gccagctcct cttctccctg gtggctgtca tgtttgtcat aggccttctg 120
ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac 180
ttcctgctca gccagctctc cctgtttgac attggctgtc ccatggtcac catccccaag 240
atggcatcag actttctgcg ggagaaggt gccacctcct atggaggtgg tgcagctcaa 300
atattcttcc tcacactgat gggtgtggct gagggcgtcc tgttggtcct catgtcttat 360
gaccgttatg ttgctgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta 420
tgtctgctga tgatgggctc ctcctgggtg gtaggtgtgc tcaacgcctc catccagacc 480
tccatcaccc tgcattttcc ctactgtgcc tcccgtattg tggatcactt cttctgtgag 540
gtgccagccc tactgaagct ctcctgtgca gatacctgtg cctacgagat ggcgctgtcc 600
acctcagggg tgctgatcct aatgctccct ctttccctca tcgccacctc ctacggccac 660
gtgttgcagg ctgttctaag catgcgctca gaggaggcca gacacaaggc tgtcaccacc 720
tgctcctcgc acatcacggt agtggggctc ttttatggtg ccgccgtgtt catgtacatg 780
gtgccttgcg cctaccacag tccacagcag gataacgtgg tttccctctt ctatagcctt 840
gtcaccccta cactcaaccc ccttatctac agtctgagga atccggaggt gtggatggct 900
ttggtcaaag tgcttagcag agctggactc aggcaaatgt gc 942

<210> 544
<211> 350
<212> DNA
<213> Unknown (H38g393 nucleotide)

<220>
<223> Synthetic construct

<400> 544
aatattaagg gcattgctgg tgcccatgtt tattgaagtg ttggatctat tctttatcat 60
cctatcttat atctttatcc cttcaggcag ttctacaact ctcctctcag aggcccgcta 120
caaagcattt gggacatgtg tctctcacat aggtgccatc ttagccttct acacaccttc 180
agtcatctct tcagtcatgc accgtgtggc ccgctgtgct gcgccacacg tccacattct 240
cctcgccaat ttctatctgc tcttcccacc catggtcaat cccatcatct acggcgttaa 300

gaccaagcag atccgtgaca gtcttgggag tattcccgag aaaggatgtg 350

<210> 545
<211> 948
<212> DNA
<213> Unknown (H38g394 nucleotide)

<220>
<223> Synthetic construct

<400> 545
atgcctagtc agaactatag catcatatct gaatttaacc tctttggctt ctcagccttc 60
ccccagcacc tcctgcccat cttgttcctg ctgtacctcc tgatgttcct gttcacattg 120
ctgggcaacc ttctcatcat ggccacaatc tggattgaac acagactcca cacacccatg 180
tacctcttct tgtgcaccct ctccgtctct gagattctgt tcactgttgc catcacccct 240
cgcatgctgg ctgatctgct ttccacccat cattccatca cctttgtggc ttgtgccaac 300
cagatgttct tctccttcat gtttggcttc actcactcct tccttctcct ggtcatgggc 360
tatgatcgct atgtggccat ctgccaccca ctgcgttaca atgtgctcat gagcccccgt 420
gactgtgccc atcttgtggc ctgtacctgg gctggtggct cagtcatggg gatgatggtg 480
acaacgatag ttttccacct cactttctgt gggtctaatg tgatccacca tttttctgt 540
catgtgcttt ccctcttgaa gttggcctgt gaaaacaaga catcatctgt catcatgggt 600
gtgatgctgg tgtgtgtcac agccctgata ggctgtttat tcctcatcat cctctcctat 660
gtcttcattg tggctgccat cttgaggatt ccctctgccg aaggccggca caagacattt 720
tctacgtgtg tatcccacct cactgtggtg gtcacgcact atagtttgc ctcctttatc 780
tacctcaagc ccaagggcct ccattctatg tacagtgacg ccttgatggc caccacctat 840
actgtcttca ccccccttcct tagcccaatc atttcagcc taaggaacaa ggagctgaag 900
aatgccataa ataaaaactt ttacagaaaa ttctgtcctc caagttcc 948

<210> 546
<211> 990
<212> DNA
<213> Unknown (H38g395 nucleotide)

<220>
<223> Synthetic construct

<400> 546
atgtgttctt ttttcttgtg ccaaacaggt aaacaggcaa aaatatcaat gggagaagaa 60
aaccaaacct ttgtgtccaa gtttatcttc ctgggtcttt cacaggactt gcagacccag 120
atcctgctat ttatcctttt cctcatcatt tatctgctga ccgtgcttgg aaaccagctc 180
atcatcattc tcatcttcct ggattctcgc cttcacactc ccatgtattt ttttcttaga 240
aatctctcct ttgcagatct ctgtttctct actagcattg tccctcaagt gttggttcac 300
ttcttggtaa agaggaaaac catttctttt tatgggtgta tgacacagat aattgtcttt 360
cttctggttg ggtgtacaga gtgtgcgctg ctggcagtga tgtcctatga ccggtatgtg 420
gctgtctgca agcccctgta ctactctacc atcatgacac aacgggtgtg tctctggctg 480
tccttcaggt cctgggccag tggggcacta gtgtctttag tagataccag ctttactttc 540
catcttccct actggggaca gaatataatc aatcactact tttgtgaacc tcctgccctc 600
ctgaagctgg cttccataga cacttacagc acagaaatgg ccatcttttc aatgggcgtg 660
gtaatcctcc tggcccctgt ctccctgatt cttggttctt attggaatat tatctccact 720
gttatccaga tgcagtctgg ggaagggaga ctcaaggctt tttccacctg tggctcccat 780
cttattgttg ttgtcctctt ctatgggtca ggaatattca cctacatgcg accaaactcc 840
aagactacaa aagaactgga taaaatgata tctgtgttct atacagcggt gactccaatg 900
ttgaacccca taatttatag cttgaggaac aaagatgtca aaggggctct caggaaacta 960
gttgggagaa agtgcttctc tcataggcag 990

<210> 547
<211> 676
<212> DNA
<213> Unknown (H38g396 nucleotide)

<220>

<223> Synthetic construct

<400> 547
ggaaaggaaa gagagacacg ggtctggagg ccgagagcgc aagaccgggg ggtgagcacc 60
cggcacgctg cgagggtaac aagctatcag gaatgcgggg tccgtggcgg gggagtgttg 120
tgggcgcggt taggccgagt cctttagacg cccagctgca caacgtgatt gcctacagaa 180
ggacctgctt caaggatgtg gaaattccga atttcgctgt gacccttctc aattccccgt 240
cttgcatgtg tggcaccttc accaataaca taatcatgta tttccctgct gccatatttg 300
gttttcttcc catctcgggg acccttttct cttacgataa aattgttttc tccattctga 360
gggtttcatc atcaggtggg aagcataagg ccttctccac caggggggtct cacctgtcag 420
ttgtttgctg attttatgga acaggcattg gaggctacct cagttcagat gtgtcatctt 480
ccccgagaaa ggctgcagtg gcctcagtga tgtacacggt ggccatcccc atgctgaacc 540
ccttcatcta cagcctgaga aacagggata ttaaaagtgt cctgcggcac cgcacggcag 600
cacggtctca tctcaatatc ttcttatctg ttccattcct tttgtagtgt gggttaaaaa 660
aggcagcaag gtcaaa 676

<210> 548
<211> 992
<212> DNA
<213> Unknown (H38g397 nucleotide)

<220>
<223> Synthetic construct

<400> 548
atgaaaatct tcaacacccc cagcaactcc agcaccttca ctggcttcat cctcctgggc 60
ttcccttgcc ccagggaggg acagatcctc ctcgttgtgc tcttcactgt tgtttacctc 120
ctgaccctca tgggcaatgg ttccatcaac tgtgctgtgc actgggtcag agactccatg 180
cccccatgta catcctgctc gccaacttct ccttcctgga gatctgttat gtcacctcta 240
cagtccccaa cgtgctggcc aacttcctct ctgacacaag atcatctcgt tctctggctg 300
cttcctccaa ttctactttt ttttctcctt gggctctaca gaatgctttt tcctgggagc 360
tatggcattt gacctatacc ttgccatctg ccggcctcta cgctatccaa ccattatgac 420
cagacgtctc tgcaacattc ttgtgggcag ctgctgggta cttggtttct tgtggttcct 480
gattcctatc agtgtcattt ctcaaatgac ctgtggatct aggattattg accacttccc 540
atgtgaccca ggtcctctgt tagccctcac ctgtgccaga gcccctctac tagagttgac 600
tagctccacc ttaagttctc tacttctatt tattcccttt ctcttcatcg tggggtgcta 660
tgctctggtc ctgagagctg tgttgagggt tccttcagca tctggaagaa gaaaggcttt 720
ctctacctgt ggctcccacc tggctgtagt ttcactgttt atggctcaat gatgatcacg 780
tatgtgagcc caacatctgg gcatgaattc ggaatgcaga agactgtgac tctgttctat 840
tctgtggtca ctccccttat taatcctgtc atatacagtc tgaggaacaa ggaaatgaaa 900
catgcaatga ggaactacac tgtaatgttt tattttctag aattcatagg gctacaagag 960
atgtcaaaga tgtattctat ctctttaatt tt 992

<210> 549
<211> 805
<212> DNA
<213> Unknown (H38g398 nucleotide)

<220>
<223> Synthetic construct

<400> 549
ttctcaagta tatatgcttg tatatatcag atctctatct caactatcta tctaatcatc 60
tatctatatt taaattagta gactggatta tcaattgtta tttgtattat attttacagc 120
ctactcactt tattctagca gttcatttac acttgtgaaa tgaatcaatt taaatagtaa 180
caaaatagga acaatctgac aactttttag ggatacttct actcaggaat atgtggcagg 240
agaaactgta caatgtgatt gataacaatc ttcattttga aatattgcta gcatggcttc 300
atcacaattc actctgtcat ggacagtggt cagcacttgg ccatctgcca cccactgcac 360
taccttatcc tcatgactga tgaaaataga gatcgaatgt ttatgggccc gctgacagcc 420
tttccctaca ccgatgccac atctcagaac atgcactatg taaattttct tattatcatt 480
ctcagtattt tgtacatccc tggaccatat acgttgatcc taagagctat gcttcagctg 540

ctttcagcag ctagccatca aaatgccttt tctatccgtg ggtctcactt aatagtggtg 600
tctctgttct gtgaaaccat atgatgatgt gtgtgaatct catatctgac catttagtat 660
aaatgaagat gacaaatcac aatatcataa tgatatcctc cataaagact ctagttttaa 720
actttgtcaa ttacacctta ctcaatatga acttaaaacc tatcttcagt ttttttttta 780
tggaatgagt attagccaaa gctca 805

<210> 550
<211> 933
<212> DNA
<213> Unknown (H38g399 nucleotide)

<220>
<223> Synthetic construct

<400> 550
atgaaaatct tcaacagccc cagcaactcc agcaccttca ctggcttcat cctcctgggc 60
ttcccttgcc ccagggaggg gcagatcctc ctctttgtgc tcttcactgt tgtttacctc 120
ctgaccctca tgggcaatgg ttccatcatc tgtgctgtgc actgggatca gagactccac 180
gcccccatgt acatcctgct cgccaacttc tccttcttgg agatatgtta tgtcacctcc 240
acagtcccca gcatgctggc caacttcctc tctgacacca agatcatctc gttctctggc 300
tgcttcctcc agttctactt tttcttctcc ttgggctcta cagaatgctt tttcctggca 360
gttatggcat ttgatcgata ccttgccatc tgtcggcctc tacgctatcc aaccattatg 420
accagacgtc tctgtaccaa tcttgtggtc aattgctggg tacttggttt catctggttc 480
ttgattccta tcgtcaacat ctcccaaatg tccttctgtg gatctaggat tattgaccac 540
ttcctatgtg acccagctcc tcttctaact ctcacttgca aaaaaggccc tgtgatagag 600
cttgtctttt ctgtcttaag tcctctgcct gtctttatgc tctttctctt cattgtgggg 660
tcctatgctc tggtcgtgag agctgtgttg agggtccctt cagcagctgg gagaagaaag 720
gctttctcca cctgtgggtc tcacctggct gtggtttcac tgttctacgg ctcagtactg 780
gtcatgtatg ggagcccacc atctaagaat gaagctggaa agcagaagac tgtgactctg 840
ttttattctg ttgttacccc actgcttaac cctgtgatat atagtcttag gaacaaagat 900
atgagaaaag ctctgaagaa atttgggga aca 933

<210> 551
<211> 977
<212> DNA
<213> Unknown (H38g400 nucleotide)

<220>
<223> Synthetic construct

<400> 551
acagccctgg aattcacaaa caattcagag acaagcacta tgacggaatt tgttctcctt 60
ggctttcctg gttgtcagga gatgcaaagt ttcctcttct ccctgttctt tgtgatctat 120
gtatttacca taataggaaa tgggaccatt gtctgtgctg tgagattgga caaacggctt 180
catacccaa tgtatattct cctagggaac tttgctttcc ttgaaatccg gtaagttact 240
tccactgtac ccaacatgct agtcaacttc ctctcagaga caaaaaccat ctcttttgtt 300
ggctgtttcc tccagttcta ctttttact tcccttggta caatagaagc atacttcctc 360
tgcatcatgg catatgatcg gtaccttgct atctgccgcc cattgcacta cccaaccatc 420
atgaccccac aactctgcta catattgatg tctttttgct gggtgtttgg attcctcagt 480
tactctgtct ccactgtgca actgtctcaa ctgcctttct gtgggcccaa catcatcaat 540
cactttttgt gtgacatgga cccactgatg gctctgtcct gtgcctcagc tcctatcact 600
gagattatct tctatatcct gagctccctc attatcattc tcactcttct gtacatctgt 660
ggctcctata tgctttactg atagctgtat taaaagtccc ttcagcagct ggccagcaga 720
aggccttttc cacctgtgga tctcatctga cagtggtgtg tttattcttt ggggccctac 780
tggcaatgta tgtgagcccc acaactgata acccagctgc aatttagaag attataactt 840
tgttctattc tgtggtgacc cccttcttaa accccctgat ttacagctta cgaaacaaag 900
agatgaaggc tgcgttgaag aaagtcctga ggatagaatg agaataaagt catctacatg 960
agaccaagca aaccatt 977

<210> 552
<211> 945

<212> DNA
<213> Unknown (H38g401 nucleotide)

<220>
<223> Synthetic construct

<400> 552
atggagagcg gaaaccaatc aacagtgact gaatttatct tcactggatt ccctcagctt 60
caggatggta gtctcctgta cttctttcct ttacttttca tctatacttt tattatcatt 120
gataacttat taatcttctc tgctgtaagg ctggacaccc atctccacaa ccccatgtat 180
aattttatca gtatattttc ctttctggag atctggtaca ccacagccac cattcccaag 240
atgctctcca acctcatcag tgaaaagaag gccatctcaa tgactggctg catcttgcag 300
atgtatttct tccactcact tgaaaactca gaggggatct tgctgaccac catggccatt 360
gacagatacg ttgccatctg caaccctctt cgctatcaaa tgatcatgac cccccggctc 420
tgtgctcaac tctctgcagg ttcctgcctc ttcggtttcc ttatcctgct tcccgagatt 480
gtgatgattt ccacactgcc tttctgtggg cccaaccaaa tccatcagat cttctgtgac 540
ttggtccctg tgctaagcct ggcctgtaca gacacgtcca tgattctgat tgaggatgtg 600
attcatgctg tgaccatcat cattaccttc ctaatcattg ccctgtccta tgtaagaatt 660
gtcactgtga tattgaggat tccctcttct gaagggaggc aaaaggcttt ttctacctgt 720
gcaggccacc tcatggtctt cctgatattc tttggcagtg tatcactcat gtacttgcgt 780
ttcagcgaca cttatccacc agttttggac acagccattg cactgatgtt tactgtactt 840
gctccattct tcaatcccat catttatagc ctgagaaaca aggacatgaa caatgcgatt 900
aaaaaactgt tctgtcttca aaaagtgttg aacaagcctg gaggt 945

<210> 553
<211> 921
<212> DNA
<213> Unknown (H38g402 nucleotide)

<220>
<223> Synthetic construct

<400> 553
atgcattttg tgactgagtt tgtcctcctg ggtttccatg gtcaaaggga gatgcagagc 60
tgcttcttct cattcatcct ggttctctat ctcctgacac tgctagggaa tggagctatt 120
gtctgtgcag tgaaattgga caggcggctc cacacaccca tgtacatcct tctgggaaac 180
tttgcctttc tagagatctg gtacatttcc tccactgtcc caaacatgct agtcaatatc 240
ctctctgaga ttaaaaccat ctccttctct ggttgcttcc tgcaattcta tttctttttt 300
tcactgggta caacagagtg tttcttttta tcagttatgg cttatgatcg gtacctggcc 360
atctgtcgtc cattacacta cccctccatc atgactggga agttctgtat aattctggtc 420
tgtgtatgct gggtaggcgg atttctctgc tatccagtcc ctattgttct tatctcccaa 480
cttccccttct gtgggcccaa catcattgac cacttggtgt gtgacccagg cccattgttt 540
gcactggcct gcatctctgc tccttccact gagcttatct gttacacctt caactcgatg 600
attatctttg ggccccttcct ctccatcttg ggatcttaca ctctggtcat cagagctgtg 660
ctttgtattc cctctggtgc tggtcgaact aaagctttct ccacatgtgg gtcccaccta 720
atggtggtgt ctctattcta tggaaccctt atggtgatgt atgtgagccc aacatcaggg 780
aacccagcag gaatgcagaa gatcatcact ctggtataca cagcaatgac tccattctta 840
aatcccctta tctatagtct tcgaaacaaa gacatgaaag atgctctaaa gagagtcctg 900
gggttaacag ttagccaaaa c 921

<210> 554
<211> 768
<212> DNA
<213> Unknown (H38g403 nucleotide)

<220>
<223> Synthetic construct

<400> 554
atgtataatt ttatcagcat tttctcattt ctggagatct ggtacacaac tgccacaatt 60
cccaagatgc tctccatcct catcagcagg cagaggacca tctccatggt tggctgcctc 120

ttgcagatgt acttcttcca ttcactggga aattcagagg ggattttgtt gaccaccatg 180
gccattgata ggtacgttgc catctgtaac cctctccgct acccaaccat catgaccccc 240
gggctctgtg ttcagctctc tgtggggtcc tgcatctttg gctttcttgt gttgctccca 300
gagattgcat ggatttccac actgcccttc tgtggaccca accaaatcca ccagatcttc 360
tgtgattttg aacctgtgct gcgcttggcc tgtacagaca cgtccatgat tctgattgag 420
gatgtgatcc atgctgtggc cattgtattc tctgtcctga ttattgccct ttcttatatc 480
agaatcatca ctgtaatcct gaggattccc tctgttgaag gccgccagaa ggccttttct 540
acctgtgccg cccatcttag tgtctttctg atgttctatg gcagtgtatc cctcatgtac 600
ctgcgtttct ctgccacttt cccaccgatt ttggacacag ctgttgcact gatgtttgca 660
gttcttgctc ccttttcaa ccctatcatc tatagcttta gaaataagga catgaagatt 720
gcaattaaaa agcttttctg ccctcagaag atggttaatt tatctgta 768

<210> 555
<211> 960
<212> DNA
<213> Unknown (H38g404 nucleotide)

<220>
<223> Synthetic construct

<400> 555
agtctgggaa gcatgaataa ctcacagata tctactgtga cgcagtttgt gttgttgggg 60
tttcctggtc cctggaaaat tcagatcatc tttttctcaa tgattttgtt ggtctacatc 120
ttcactctga ctgggaatat ggccatcatc tgtgcagtga ggtgggacca tcgactccat 180
acccctatgt acgtgctcct agccaacttc tccttcctag agatctggta tgtgacctgc 240
acagtcccca acatgctggt aaattttttc tccaaaacta agaccatatc attctctgga 300
tgtttcactc agttccactt cttcttttcc ctgggcacaa ctgaatgctt cttcctctgt 360
gtcatggctt atgatcggta cctggccatc tgccacccac tgcactatcc ctccattatg 420
actggccagc tctgtggcat cttggtgtct ctttgttggc tcattggttt ccttggacat 480
tcaatttcca ttttcttcat ttttcaacta cctttctgtg gtcccaacat cattgatcat 540
tttctgtgtg atgtagaccc actgatggca ttgtcctctg cccctactca catcataggg 600
catgtgttcc attctgtgag ctctcttttc atcaacctca ccatggtgta catccttggg 660
tcctatacct tggtgctcag aactgtgctt taggttcctt cttcagctgg atggcaaaag 720
gccatctcta cctgtgggtc acacttggtt gttgtgtctc tgttctatgg agccataatg 780
ctgatgtatg tgagtcccac acctggcaac tcagttgcta tgcataagct catcacactg 840
atatattctg tggtaacacc tgtcttaaac cccctcatct acagcctacg caacaaggac 900
atgaaatatg ccctccatca tgtcttctgt ggaatgagaa ttatccagag atcatgaata 960

<210> 556
<211> 957
<212> DNA
<213> Unknown (H38g405 nucleotide)

<220>
<223> Synthetic construct

<400> 556
atggatccag agaatcagac aatggtgact gagttttatt tctctgattt tcctcaatct 60
aagaatggca gcctcttatt cttcattcct atgctcttta tttatatatt cattcttgtt 120
ggaaatttca tgattttctt tgctgtccaa ccggaccccc atctccataa tcctatgtac 180
agttttatca gtgtcttctc cttcctggag atttggtaca ccaccgtgac tatccccaag 240
atgctctcca accttctcag tgaacagaaa accatctctt tcataggttg cctcctgcag 300
atgtacttct tccactcact cggggtcaca gaagccctag tcctcacagt gatggccatt 360
gacaggtgtg tagccatctg caaccccctt cgctatgcaa tcactatgtc cccttgactg 420
tgcatccagc tctccactgg ctcttgcatt tttggcttcc tcatgttact gccagagatt 480
gtgtgcattt ccactcttcc attctgtggc gccaaccaaa ttcatcaact cttttgtgac 540
tttgaacctg tgctgcagtt agcctgcaca gatacgtaca taattctggt tgaagatgtg 600
atccgtgcta tttccattct gacctctgtc tctgtcatca cccttttcta tttaagaatc 660
atcacggtga tcctgaggat tccctctggt gagagtcgtc agaaggcttt cttcacatgt 720
gcagcccaca ttgctatttt cttgctgttt tttggcagtg tgtcactcat gtatctgcgc 780
ttctctgtca cattcccacc attactggac aaggccattg cactgatgtt tgctgtcctt 840

gccctacttt tcaacccagt aatctatagt ctgaggaaca aagatatgaa aaacgccacc 900
aagaaaatcc tctgttctca aaagatgttc aatgcctctg ggagctaatg gagttca 957

<210> 557
<211> 951
<212> DNA
<213> Unknown (H38g406 nucleotide)

<220>
<223> Synthetic construct

<400> 557
atgacacagt tgacggccag tgggaatcag acaatggtga ctgagttcct cttctctatg 60
ttcccgcatg cgcacagagg tggcctctta ttctttattc ccttgcttct catctacgga 120
tttatcctaa ctggaaacct aataatgttc attgtcatcc aggtgggcat ggccctgcac 180
accccttttgt atttctttat cagtgtcctc tccttcctgg agatctgcta taccacaacc 240
accatcccca agatgctgtc ctgcctaatc agtgagcaga agagcatttc cgtggctggc 300
tgcctcctgc agatgtactt tttccactca cttggtatca cagaaagctg tgtcctgaca 360
gcaatggcca ttgacaggta catagctatc tgcaatccac tccgttaccc aaccatcatg 420
attcccaaac tttgtatcca gctgacagtt ggatcctgct tttgtggctt cctccttgtg 480
cttcctgaga ttgcatggat ttccaccttg cctttctgtg gctccaacca gatccaccag 540
atattctgtg atttcacacc tgtgctgagc ttggcctgca cagatacatt cctagtggtc 600
attgtggatg ccatccatgc agcggaaatt gtagcctcct tcctggtcat tgctctatcc 660
tacatccgga ttattatagt gattctggga atgcactcag ctgaaggtca tcacaaggcc 720
ttttccacct gtgctgctca ccttgctgtg ttcttgctat tttttggcag tgtggctgtc 780
atgtatttga gattctcagc cacctactca gtgttttggg acacagcaat tgctgtcact 840
tttgttatcc ttgctccctt tttcaacccc atcatctata gcctgaaaaa caaggacatg 900
aaagaggcta ttggaaggct tttccactat cagaagaggg ctggttgggc t 951

<210> 558
<211> 831
<212> DNA
<213> Unknown (H38g407 nucleotide)

<220>
<223> Synthetic construct

<400> 558
atggctctaa ttggaaacct atccatgatt cttctcatct tcttggacac ccatctccac 60
acacccatgt atttcctact tagtcagctc tccctcattg acctaaatta catctccacc 120
attgttccta agatggcatc tgattttctg tctggtaaca agtctatctc cttcactggg 180
tgtgggattc agagtttctt cttctcggca ttaggaggtg cagaagcact actttggca 240
tctatggcct atgatcgtta cattgctatt tgctttcctc ttcactatcc catccgcatg 300
agcaaaagaa tgtgtgtgct gatgataaca gggtcttgga tcataggctc gatcaatgct 360
tgtgctcaca ctgtatatgt actccatatt ccttattgcc aatccagggc catcaatcat 420
ttcttctgtg atgtcccagc aatggtgact ctggcctgca tggacacctg ggtctatgag 480
ggcacagtgt ttttgagcac caccatcttt ctcgtgtttc ccttcattgc tatttcatgt 540
tcctatggcc gggttctcct tgctgtctac cacatgaaat ctgcagaagg gaggaagaaa 600
gcctacctga cctgcagcac ccacctcact gtagtaactt tctactatgc accttttgtc 660
tacacttatc tacgtccaag atccctgcga tctccaacag aggacaaggt tctggctgtc 720
ttctacacca tcctcacccc aatgctcaac cccatcatct atagcctgag gaacaaggag 780
gtgatggggg ccctgacacg agtgagtcag agaatctgct ctgtgaaaat g 831

<210> 559
<211> 725
<212> DNA
<213> Unknown (H38g408 nucleotide)

<220>
<223> Synthetic construct

<400> 559
atggatagag taaataattc tgcggtatct aaatttgtat tgattggact ttcaagctct 60
tgggagatgc atctttttct tttttggttc ttctctgtgt tctacatggg aattatcctg 120
gaaaatctct tcattgtgtt cacagtaatt attgactctc atttaaattc cccaggtact 180
gcctactggc caacatttat cttcttgatc tgggtcttct cctacagttc tgactttttc 240
actaactgca gcatcatttc ttttccaaga tgcatgatac agatattttt catttgtgtc 300
atgcgtaaaa attgagatgg tgctgctcat aaccatggca tagagcaggt acactgccaa 360
tctgtaagcc tccccattac ctgaccacaa tgaaccccaa aatgtgtgtt tcctttgttg 420
gaggcatcct ggatagtcag gataatccat gctgtatctc agtttgtttt tgccataaac 480
ttgccttttt gtggccctaa tagagtaggt agttttcact gtgattttcc ttatgtcatg 540
aaacttgctt gtgtagatac ttacaaacta gaggttgtag tcactgctaa cagtgggctt 600
atatccatag ctacctgttt cttattaata atatcctata ttttcatttc ggtaaccgtc 660
tagaatcctt cttcaggaga cttatctaaa gcatttgtgt catgttagat cacatcacag 720
taggg 725

<210> 560
<211> 936
<212> DNA
<213> Unknown (H38g409 nucleotide)

<220>
<223> Synthetic construct

<400> 560
atggacacag ggaactggag ccaggtagca gaattcatca tcttgggctt cccccatctc 60
cagggtgtcc agatttatct cttcctcttg ttgcttctca tttacctcat gactgtgttg 120
ggaaacctgc tgatattcct ggtggtctgc ctggactccc ggcttcacac acccatgtac 180
cactttgtca gcattctctc cttctcagag cttggctata cagctgccac catccctaag 240
atgctggcaa acttgttcag tgagaaaaag accatttcat tctctgggtg tctcctgcag 300
atctatttct ttcactccct tggagcgact gagtgctatc tcctgacagc tatggcctac 360
gataggtatt tagccatctg ccggcccctc cactacccaa ccctcatgac cccaacactt 420
tgtgcagaga ttgccattgg ctgttggttg ggaggcttgg ctgggccagt agttgaaatt 480
tccttgattt cacgcctccc attctgtggc cccaatcgca ttcagcacgt cttttgtgac 540
ttccctcctg tgctgagttt ggcttgcact gatacgtcta caaatgtcct agtagatttt 600
gttataaatt cctgcaagat cctagccacc ttcctgctga tcctctgctc ctatgtgcag 660
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tgtgcctccc acctcactgt ggttctcatc ttctatggga gcatcctttc catgtatgtg 780
cggctgaaga agagctactc actggactat gaccaggccc tggcagtggt ctactcagtg 840
ctcacaccct tcctcaaccc cttcatctac agcttgcaca acaaggagat caaggaggct 900
gtgaggaggc agctaaagag aattgggata ttggca 936

<210> 561
<211> 635
<212> DNA
<213> Unknown (H38g410 nucleotide)

<220>
<223> Synthetic construct

<400> 561
gaattccttt tttataatta caatcaaaca tcaactgatt tcatcttatt ggggctgttc 60
ccacaatcaa gaattggcct tttcgtattc accctcattt ttctcatttt cctaatggct 120
ctaattggaa atctatccat gattcttctc atctttttgg acatccatct ccacacacct 180
atgtatttcc tacttagtca gctctccctc attgacctaa attacatctc caccattgtt 240
ccaaagatgg tttatgattt tctgtatgga aacaagtcta tctccttcac tggatgtggg 300
attcagagtt tcttcttctt gactttagca gttgcagaag ggctgctcct gacatcaatg 360
gcctatgatc gttatgtggc catttgcttt cctctccact atcccatccg tataagcaaa 420
agagtgtgtg tgatgatgat aacaggatct tggatgataa gctctatcaa ctcttgtgct 480
cacacagtat atgcactctg tatcccatat tgcaagtcca gagccatcaa tcattttttc 540
tgtgagggat cctctgagag gtacctggga gcatgcaagc ttggcgctgg gccgcggtgg 600
aaacggcgtg actggtaaaa ccctgggcgg gccca 635

<210> 562
<211> 789
<212> DNA
<213> Unknown (H38g411 nucleotide)

<220>
<223> Synthetic construct

<400> 562
atgttgggga attactctag cgccactgaa tttttctct taggcttccc tggctcccaa 60
gaagtatgcc gtatcctatt tgcgaccttc ttcctcttgt atgcagtgac agtgatggga 120
aacgtggtca tcatcatcac tgtctgtgtt gataaatgtc tgcagtcccc catttatttt 180
ttcctgggcc acctctgtgt cctggagatc ctgatcacat ccaccgctgt cccttttatg 240
ctctgggggt tgctgcttcc aagcacccag atcatgtctt tgacagcctg tgctgcacag 300
ctatatttat acctttcttt gggtaccttg gagttggcat taatgggagt gatggctgtg 360
gaccgttatg tggctgtgtg taaccctttg aggtacaaca tcattatgaa cagcagcacc 420
ttcatttggg tgataattgt gtcatgggtt ttggggtttc tttctgaaat ctggccagtt 480
tatgccactt ttcagcttac tttctgcaaa tcaagtgtgt tagatcattt ttattgtgac 540
cgaggacaat tgctcaaggt atcctgtgag gacactcttt tcagagagtt tattcttttt 600
ctaatggctg ttttcattat cattggttct ttgatcccta cgattgtctc ctacacctac 660
atcatctcca ccaacctcaa gattccgtca gcctctggct ggaggaaatc cttttccacc 720
tgtgcctccc acttcaccta tgttgtgatt ggctatggca gctgcttgtt tctctacgtg 780
aaacccaag 789

<210> 563
<211> 951
<212> DNA
<213> Unknown (H38g412 nucleotide)

<220>
<223> Synthetic construct

<400> 563
atggatcaat acaaccattc aagcctggct gaatttgtgt tccttggctt tgccagtgtg 60
ggctatgtca ggggctggct ttttgtcctg ctgctattgg catacctgtt caccatctgt 120
ggtaacatgc tcatcttctc agtcatccga ctggatgcag ctctgcacac acctatgtac 180
cactttgtca gtgttctttc cttcttggag ttgtggtata cagctaccac tatccctaag 240
atgttgtcta atattctcag tgagaagaaa accatttctt ttgcaggatg cctccttcag 300
acctacttct tccactcctt gggagcgtct gaatgctacc ttcttacagc catggcctat 360
gatagatacc tggccatttg tcggcccctc cactacccta taattatgac caccacactc 420
tgtgccaaga tggctgctgc ttgttggact tgtggcttcc tgtgtcccat ttctgaggtc 480
atccttgcct cccagctccc attttgtgct tacaatgaaa tccaacacat tttctgtgac 540
tttccacctt tgctgagctt ggcctgcaag gacacatctg ctaacattct ggtggacttt 600
gccattaatg ctttcataat tcttatcact ttcttcttta tcatgatttc ttatgcaagg 660
atcattgggg ctgtgctgaa gataaaaaca gcatcaggaa gaaagaaggc cttttctacc 720
tgtgcctcac atcttgctgt ggtcctcatc ttctttggga gcatcatctt catgtatgtg 780
cggctaaaga agagctattc cctgaccctt gaccgaacac ttgctatagt ttactccgta 840
ctaacaccaa tggtcaatcc aattatctac agtcttcgta acaaggaaat cattaaagct 900
atcaagagga ccatcttcca gaagggagat aaagctagtc ttgctcatct t 951

<210> 564
<211> 945
<212> DNA
<213> Unknown (H38g413 nucleotide)

<220>
<223> Synthetic construct

<400> 564
atgcaggggc taaaccacac ctccgtgtct gaattcatcc tcgttggctt ctctgccttc 60

ccccacctcc agctgatgct cttcctgctg ttcctgctga tgtacctgtt cacgctgctg 120
ggcaacctgc tcatcatggc cactgtctgg agcgagcgca gcctccacat gcccatgtac 180
ctcttcctgt gtgccctctc catcaccgag atcctctaca ccgtggccat catcccgcgc 240
atgctggccg acctgctgtc cacccagcgc tccatcgcct tcctggcctg tgccagtcag 300
atgttcttct ccttcagctt cggcttcacc cactccttcc tgctcactgt catgggctac 360
gaccgctacg tggccatctg ccaccccctg cgttacaacg tgctcatgag cctgcggggc 420
tgcacctgcc gggtgggctg ctcctgggct ggtggcttgg tcatggggat ggtggtgacc 480
tcggccattt tccacctcgc cttctgtgga cacaaggaga tccaccattt cttctgccac 540
gtgccacctc tgttgaagtt ggcctgtgga gatgatgtgc tggtggtggc caaaggcgtg 600
ggcttggtgt gtatcacggc cctgctgggc tgtttctcc tcatcctcct ctcctatgcc 660
ttcatcgtgg ccgccatctt gaagatccct tctgctgaag gtcggaacaa ggccttctcc 720
acctgtgcct ctcacctcac tgtggtggtc gtgcactatg gctttgcctc cgtcatttac 780
ctgaagccca aaggtcccca gtctccggaa ggagacacct tgatgggcat cacctacacg 840
gtcctcacac ccttcctcag ccccatcatc ttcagcctca ggaacaagga gctgaaggtc 900
gccatgaaga agacttgctt caccaaactc tttccacaga actgc 945

<210> 565
<211> 958
<212> DNA
<213> Unknown (H38g414 nucleotide)

<220>
<223> Synthetic construct

<400> 565
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gatccagaac tgcagcctgt cctcgctggg ctgtccccat ccatgtatct ggtcacagtg 120
ctgaggaacc tgctcgtcat cctggctgtc agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaaccc gtgctgggct gacatcggtt tcacttcggc cacggttccc 240
aagatgactg tggacatgca gtcacatatc agagtcatct cttatgcgag ctgcctgaca 300
cggatgtctt tcttggtcct ttttgcatgt atagaagaca tgctcctgac tgtgatggcc 360
taggactgct ttgtagccat ctgtcgccct ctgcactacg cagtcatcgt gaatcctcac 420
ctctgtgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
agttagattg ttacaattca ccttcttcaa gaatgtggaa atctctcatt ttgtctgtga 540
gccatctcaa cttctcaacc ttgcctgttc tgacagcgtc atcaatagca tattcatgta 600
tttcaatagt actatgtttg gtttcttcc catttcaggg atccttttgt cttactataa 660
aattgttccc tccattctaa ggatttcatc gtcagatggg aagtataaag ccttctccac 720
ctgtggctct cacctggcag ttgtttgctt attttatgga acaggcattg gcatgtacct 780
gacttcagct gtggcaccac cccccaggaa tggtgtggtg gcgtcagtga tgtacgctgt 840
ggtcaccccc atgctgaacc ctttcatcta cagcctgaga aacagggaca ttcaaagcgc 900
cctgtggagg ctgcgcagca gaacagtcga atctcatgat ctgttccatc ctttttct 958

<210> 566
<211> 470
<212> DNA
<213> Unknown (H38g415 nucleotide)

<220>
<223> Synthetic construct

<400> 566
gtctccccac tgtgggaatg tgtgtcatga cagcggtctc cccacttctt atgctctgga 60
gactcagttt tctgtctggt tcacagtgta ggctgctgca cactacttct ttcacagagt 120
ttgcggcttc tttcagtttt cctgttaagt tcctgtgctg cttcttggaa aaaagtccac 180
agcatgaatc tctacacacc attttgtctt tctaagtggt agaatcacgt taacaatgcc 240
ttcaacctgc catcatggaa aaaaagtaaa agtgtggtca ccatgttcta agggcccgcc 300
atgatcacgt acttgaggtc tgactcctag tataacctac agtgggaaaa cagttggtgc 360
tgttctacag cattgtctct gccttcataa aacccatcat ctccagcctc aggaacaagg 420
atgtaaaagg ggcttcttgg aaagtactta gagtcaaagg gacagctcaa 470

<210> 567

<211> 862
<212> DNA
<213> Unknown (H38g416 nucleotide)

<220>
<223> Synthetic construct

<400> 567
atggaaaatt acaatcaaac atcaactgat ttcatcttat tggggctgtt tccaccatca 60
agaattgacc ttttcttctt cattctcttt gttctcattt tcctgatggc tctaattgga 120
aacctatcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180
ctgcttagtc agctctccct cattgaccta aattacatct ctacgattgt tcctaagatg 240
gcttctgatt ttctgtatgg aaacaagtct atctccttca ttgggtgtgg gattcagagt 300
ttcttcttca tgacttttgc aggtgcagaa gcgctgctcc tgacatcaat ggcctatgat 360
cgttatgtgg ccatttgctt tcctctccac tatcccatcc gtatgagcaa aagaatgtat 420
gtgctgatga taacaggatc ttggatgata ggctccatca actcttgtgc tcacacagta 480
tatgcattcc gtatcccata ttgcaagtcc agagccatca atcatttttt ctgtgatgtt 540
ccagctatgt tgacattagc ctgtacagac acctgggtct atgagtacac agtgtttttg 600
agcagcacca tctttcttgt gtttcccttc actggcattg cgtgttccta tggctgggtt 660
ctccttgctg tctaccgcat gcactctgca gaaggaggaa aaaggcctat tcgacctgca 720
gcacccacct cactgtagta actttctact atgcaccctt acgttatacc tatctatgtc 780
caagatccct gtttatttct gacagaggac aaggttgggg gggggggggt acaccatcct 840
cacctcaatg ctcaacccca tc 862

<210> 568
<211> 930
<212> DNA
<213> Unknown (H38g417 nucleotide)

<220>
<223> Synthetic construct

<400> 568
atggataaag aaaacagctc aatggtgact gagtttatct tcatgggcat cacccaggac 60
cctcagatgg agatcatctt cttcgtggtc ttcctcatag tttacctggt taatgtagtg 120
gggaatattg gtatgattat cctgattaca acagacactc agcttcacac acccatgtat 180
tttttcctct gcaacctctc ctttgttgac ctgggctact cctcagccat tgcccccagg 240
atgctggctg acttcctaac aaatcacaaa gttatctcct tctccagctg tgccacccag 300
tttgcttttt ttgtaggttt tgtggatgct gagtgctatg tcctggcagc catggcctat 360
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tgcttggctc tcatgctggg ctcttacctg gctggtctag tgagtttagt agcccacact 480
accctcacct tcagcctgag ttactgtggt tccaatatca tcaatcattt cttctgcgaa 540
atcccaccac tcttggccct ctcttgctca gacacctaca tcagtgagat cttgctcttc 600
agtctgtgtg gcttcattga attcagcacc atcctcatca tcttcatctc ctataccttt 660
atccttgttg caatcatcag aatgcgttca gctgaaggcc gccttaaggc tttctccacc 720
tgcgggtctc accttactgg catcaccctc ttctatggca cagtcatgtt tatgtacctg 780
aggccaacat ccagctactc cctggaccaa gacaagtggg cctctgtgtt ctacacggtt 840
atcatcccca tgttaaatcc cttgatctac agtttgcgga acaaggatgt gaaagctgct 900
ttcaaaaagc taattggaaa aaaatctcaa 930

<210> 569
<211> 1005
<212> DNA
<213> Unknown (H38g418 nucleotide)

<220>
<223> Synthetic construct

<400> 569
tctacagacc cacagaatct aatagatgtc tctatattcc tcctcctaga acctcagagg 60
atccagaacg gcagctggtc cttgctgggc tgttcctgtc catgtgcctg gtcacggtgc 120

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tggggaacct gctcatcatc ctggccgtca gtcctgactc ccacctccac acccccatgt    180
acttcttcct ctccaaccta tccttgcctg acatcggttt cacctccacc acggtcccca    240
agatgattgt ggacatccga tctcacagca gagtcatctc ctatgcaggc tgcctgactc    300
agacgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg    360
gcctatgacc agtttgtagc catctgtcac cctctatatc attcagccgt catgaaccct    420
tgtttctgtg gctttctagt tttgttgact tttttttttc tcagtctttt agacgcccag    480
ctgcacaact tgattgcctt acaaatgacc tgcttcaagg atgtggaaat tcctaatttc    540
ttctgtgacc cttctccact cccccatctt gcatgttgtg acaccttcac caataacata    600
atcatgtatt tccctgctgc catatttggt ttcttcccca tctcggggac ccttttctct    660
tactataaaa ttgtttcctc cattctgagg gtttcatcat caggtgggaa gtataaggcc    720
ttctccacct gtgggtctca cctgtcggtt gtttgctgat tttatggaac aggcattgga    780
gggtacctca gttcagatgt gtcatcttcc ccgagaaagg ctgcggtggc ctcagtgatg    840
tacacggtgg tcacccccat gctgaacccc ttcatctaca gcctgagaaa cagggatatt    900
aaaagtgtcc tgcggtggct gcacggcagc tctgtctaat ctcaacatct tcttatctgt    960
tgcattcctt ttgtagtgtg ggttaaaaaa ggcagcaggg tcaaa                   1005
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<210> 570
<211> 907
<212> DNA
<213> Unknown (H38g419 nucleotide)

<220>
<223> Synthetic construct

<400> 570

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gggaacattc tcatcattgt cctggtacag ttagattctg gactgttcac gcccatgtac    180
ttatttatca gtgtcctctc ctttgtagag gtgtggtatg tcagcaccac agtgcccatg    240
ctgctgcaca ccttgctcca agggtgttca cccgtctcat cagctgtatg ctttattcag    300
ctatgtcttt cattccttag ggatgactga gtgctacctg ctgggtgtca tggcactgga    360
tagctacctt atcatctgcc acccactcca ctaccacgca ctcatgagca gacaggtaca    420
gttacgacta gctggggcca gttgggtggc tggcttctca gctgcacttg tgccagccac    480
cctcactgcc actctgccct tctgcttgaa agaggtggcc cattactttt gtgacttggc    540
accactaatg cggttggcat gtgtggacac aagctggcat gctagggccc atggcacagt    600
gattggtgtg gccactggtt gcaactttgt gctcattttg ggactctatg gaggtatcct    660
gaatgctgtg ctgaagctac cctcagctgc cagtagtgcc aaggccttct ctacctgttc    720
ctcccacgta actgtggtgg cactattcta tgcttctgcc ttcacagtat atgtgggctc    780
acctgggagt cgacctgaga gcacagacaa gcttgttgcc ttggtttatg cccttattac    840
ccctttcctc aatcctatca tctatagcct tcgcaacaag gaggtgaaga aggctttaag    900
gagagtc                                                              907
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<210> 571
<211> 1006
<212> DNA
<213> Unknown (H38g420 nucleotide)

<220>
<223> Synthetic construct

<400> 571

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ccaacgaaga gagagaacca cacagtgata agggagtttg ttttccaggg tttctccagc     60
tttcatgaac acaagcttac cctctttgtg gtatttctta ccttgtgtct tttaaccctg    120
gctggcaatg tcataattgt gacaattatc agcattgatc gtcaccttca cacccccatg    180
tacttctttg ttagtatgct ttccacttca gagactgtct acacattagt cattgtacca    240
cggatgctct ccagtctctt aagtctaagc caacctatct ctttgggtgg ctgtgccacc    300
cagatgtttt ttttattacc ttggccatca acaactgctt tctgctcaca gcaatggggt    360
atgatcgcta tgtggccatc tgtaaccctt tgaggtacat gatcatcatg aacaagaaag    420
tgtgtgtcca gctggtatgt gggtcctgca gtgttgggct gcttgtggcc atagttcaga    480
tttcatctgt gttcaggctg cctttttgtg ataaacaggt ggcccattat ttctgtgata    540
tccacccagt tatgaaactt tcctgtgttg ataccactct acatgaccta attaatttg    600
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ttgttagttc cctggttatt gtggtgccgc tgggtttggt cttcatctcc tacatcctca 660
tcatctctac catcctcaag gtcacctctc ctgagggccg gaaaaaggct tttgcaactt 720
gtgcctccca cctcactgtg gttatcatcc actatggctg tgcctccatt gcctacctca 780
agcccaagtc agagaacacc agggatcagg accagctaat ttcagtgaca tacaccgtct 840
ttactccact acttaatcct gttgtgtaca ctttgaggaa caaggaggtc aagaatgccc 900
ttcaccgtgc tattggcaaa aaaccttttg cctagaatct tcatcagttt gacatatagt 960
cagtcatagt ctgggtattt ttttaagctc gagaaaattg aatcct 1006

<210> 572
<211> 945
<212> DNA
<213> Unknown (H38g421 nucleotide)

<220>
<223> Synthetic construct

<400> 572
atgtccataa ccaaagcctg gaacagctca tcagtgacca tgttcatcct cctgggattc 60
acagaccatc cagaactcca ggccctcctc tttgtgacct tcctgggcat ctatcttacc 120
accctggcct ggaacctggc cctcattttt ctgatcagag gtgacaccca tctgcacaca 180
cccatgtact tcttcctaag caacttatct ttcattgaca tctgctactc ttctgctgtg 240
gctcccaata tgctcactga cttcttctgg gagcagaaga ccatatcatt tgtgggctgt 300
gctgctcagt tttttttctt tgtcggcatg ggtctgtctg agtgcctcct cctgactgct 360
atggcatacg accgatatgc agccatctcc agccccctc tctaccccac tatcatgacc 420
cagggcctct gtacacgcat ggtggttggg gcatatgttg gtggcttcct gagctccctg 480
atccaggcca gctccatatt taggcttcac ttttgcggac ccaacatcat caaccacttc 540
ttctgcgacc tcccaccagt cctggctctg tcttgctctg acaccttcct cagtcaagtg 600
gtgaatttcc tcgtggtggt cactgtcgga ggaacatcgt tcctccaact ccttatctcc 660
tatggttaca tagtgtctgc ggtcctgaag atcccttcag cagagggccg atggaaagcc 720
tgcaacacgt gtgcctcgca tctgatggtg gtgactctgc tgtttgggac agccctttc 780
gtgtacttgc gacccagctc cagctacttg ctaggcaggg acaaggtggt gtctgttttc 840
tattcattgg tgatccccat gctgaaccct ctcatttaca gtttgaggaa caaagagatc 900
aaggatgccc tgtggaaggt gttggaaagg aagaaagtgt tttct 945

<210> 573
<211> 949
<212> DNA
<213> Unknown (H38g422 nucleotide)

<220>
<223> Synthetic construct

<400> 573
atgccttgaa agatggagtc aataaacaca aacttcactg tcactgaatt tgtgttcctg 60
gggttgtcct ctgaaccaaa gatacagctt attcttttta ttatgttctt gttctattta 120
tcaacggtgg ctggaaatgt tataatcatc actattatct agatggaacc tctcctccaa 180
acccccatgt acttcttcct cactaattta tcctttctgg acatttgcta cacatccacc 240
aatgtccccc aaatgctgtc caacatggcg gggaaaaaga acaccatctc attctccagc 300
tgcgctactc agatgtactt ctccctctcc tttggaatga ttgtgtcctc cttggtgtca 360
tggcttatga cagatatgta gccatttgtc atcctcttca ttataccttc attatggacc 420
aaaacacctg cattcaactg gcagttattt cttggtccag tagcttcctg agttccatgg 480
ttatcaatgt tctcacgttg agtttgccct actgtgggcc taatatcctg aatcactttt 540
tctgtgaggt actttctgtc ctgaggttgg cttgcaccaa cacctcattc acagagctgg 600
ttgtttttat cttcagtatc atcattgtct tcatcccttt cctcctcatt gttgtttcct 660
atgtccggat ccttcaatct gttctcagga tgcggtcagc ctctgggcgg tatcaggcat 720
tatccacctg tacctcccat ttgacagtgg taaccttatt tatgggactg ccatcttcat 780
ggacatgaga ccacagtcga ggtcctcctg ggctggcggc aagatcattg cggttttcta 840
cacggtggtc acacccatgc ttaacccctt gatttacagc ctgaggaacc aagatgtgaa 900
aggagctcga aggagagcta ttgcaaagca gaggatgtga cagctgtta 949

<210> 574

<211> 1022
<212> DNA
<213> Unknown (H38g423 nucleotide)

<220>
<223> Synthetic construct

<400> 574
atgccaaagc taaattccac ttttgtgact gagttcctct ttgaaggttt ctccagcttc 60
aggcggcagc acaaacttgt cttctttgtt gtcttcctaa ctttgtacct gctgactctc 120
tctggcaatg tgattatcat gaccattatt cgcctggacc atcatcttca caccccatg 180
tacttcttcc tgtgcatgct atccatctct gagacctgct acactgtggc catcattccc 240
catatgcttt ctggtctctt gaatcctcat cagcccattg ccacccaaag ctgtgccact 300
cagctcttct tctatctcac ctttggcatc aacaactgct tcctgctcac agtcatggga 360
tatgaccgct atgtggccat ctgcaacccc ctaaggtatt cagtcatcat gggtaagagg 420
gcctgtatcc aactggcctc tggatcactg ggattggcc ttggcatggc cattgtccaa 480
gtaacatctg tgtttggcct gccattctgt gatgcctttg tcatctccca cttcttctgt 540
gatgtgagac acctgctgaa gctggcctgc acagacacca ctgtcaatga gataatcaac 600
tttgttgtca gcgtctgtgt ccttgttcta cctatgggcc tggtctttat ctcctatgtc 660
ctcatcatct ccaccattct taagattgcc tcagctgaag gtcagaagaa ggcctttgcc 720
acctgcgcct cccacctcac agtggtcatc atccactatg gctgtgcctc catcatctac 780
ctgaagccta agtcccagag ttccctggga caggacagac tcatctcagt gacctacact 840
catcactccc ctactgaacc ctgttgtgta cagcctgaag aacaaggagg tcaaagatgc 900
tctgcacaga gccgtggggc aaaaaactct gtctccttaa tgaagagagg ttgtgaaggc 960
ttttcctttg cgtttataaa tatgtactaa tttttaatgc tctttcaata atgcccttat 1020
gt 1022

<210> 575
<211> 938
<212> DNA
<213> Unknown (H38g424 nucleotide)

<220>
<223> Synthetic construct

<400> 575
atggatattg gcctgagtat agccaatagc tcagggtttc aactgtctga gttcattctg 60
atagggttcc caggcattca tgagtggcag cactggctct ccctgccctt agctcttggt 120
gccaatctcc tcatcataat caccattcaa catgagacca tgctacatga acccatgtac 180
catttgctgg gcatattagc agtggtggac attggcctgg ccaccaccat catgcccaag 240
atcctggcca tcttctggtt tgatgccaag gccatcagcc tccctgagtg ttttgctcag 300
atctatgcca tccactcttt catgtgcatg gagtcaggca tcttcctctg catggcagtg 360
gatagatata tggccatttg ttatcccctt cagtacactt ccatagttac tgaagctttt 420
gtcatcaaag ccacactgtc agtagtgctc aggaatggcc tgttgaccat cccagtgcca 480
gtattggctg cccagcgaca ctactgctcc aggaatgaga ttgatcagtg cctctgctct 540
aacttggggg tcacaagtct ggcctgtgat gacaccacta ttaacaggtt ttaccagctg 600
gccttggtct gggttgtggt tgggagtgac atgggtctgg tctttgcttc ctattctttg 660
attattcact cagtgctgaa gctgaactct gctaaagcaa catctaaggc cctgaatacc 720
tgcagctccc accttatcct cattctcttt ttctacacag ctattattgt agtatctgtc 780
accacctggc aggaagaagg gctccccgca tccctgttct cctcaatgtg ctgcatattg 840
tcatcccctc agcccttaac cccatagtat atgcccttag gacctaggag ctgagagcgg 900
gcttccagaa gctgcttggt ttgggcgagt atgtgtcc 938

<210> 576
<211> 945
<212> DNA
<213> Unknown (H38g425 nucleotide)

<220>
<223> Synthetic construct

<400> 576
atgttctccc caaaccacac catagtgaca gaattcattc tcttgggact gacagacgac 60
ccagtgctag agaagatcct gtttggggta ttccttgcga tctacctaat cacactggca 120
ggcaacctgt gcatgatcct gctgatcagg accaattccc acctgcaaac acccatgtat 180
ttcttccttg gccacctctc ctttgtagac atttgctatt cttccaatgt tactccaaat 240
atgctgcaca atttcctctc agaacagaag accatctcct acgctggatg cttcacacag 300
tgtcttctct tcatcgccct ggtgatcact gagttttaca tccttgcttc aatggcattg 360
gatcgctatg tagccatttg cagccctttg cattacagtt ccaggatgtc caagaacatc 420
tgtgtctgtc tggtcactat ccccttacatg tatgggtttc ttagtgggtt ctctcagtca 480
ctgctaacct ttcacttatc cttctgtggc tcccttgaaa tcaatcattt ctactgcgct 540
gatcctcctc ttatcatgct ggcctgctct gacacccgtg tcaaaaagat ggcaatgttt 600
gtagttgcag gctttaatct ctcaagctct ctcttcatca ttcttctgtc ctatcttttc 660
atttttgcag cgatcttcag gatccgttct gctgaaggca ggcacaaagc cttttctacg 720
tgtgcttccc acctgacaat agtcactttg ttttatggaa ccctcttctg catgtacgta 780
aggcctccat cagagaagtc tgtagaggag tccaaaataa ctgcagtctt ttatactttt 840
ttgagcccaa tgctgaaccc attgatctat agcctacgga acacagatgt aatccttgcc 900
atgcaacaaa tgattagggg aaaatccttt cataaaattg cagtt 945

<210> 577
<211> 771
<212> DNA
<213> Unknown (H38g426 nucleotide)

<220>
<223> Synthetic construct

<400> 577
atgtttctac tgttggccat cctggcagcc acagacctgg gcttagccac atctatagcc 60
ccagggttgc tggctgtgct gtggcttggg ccccgatctg tgccatatgc tgtgtgcctg 120
gtccagatgt tctttgtaca tgcactgact gccatggaat caggtgtgct tttggccatg 180
gcctgtgatc gtgctgcggc aatagggcgt ccactgcact accctgtcct ggtcaccaaa 240
gcctgtgtgg gttatgcagc cttggccctg gcactgaaag ctgtggctat tgttgtacct 300
ttcccactgc tggtggcaaa gtttgagcac ttccaagcca agaccatagg ccatacctat 360
tgtgcacaca tggcagtggt agaactggtg gtgggtaaca cacaggccac caacttatat 420
ggtctggcac tttcactggc catctcaggt atggatattc tgggtatcac tggctcctat 480
ggactcattg cccatgctgt gctgcagcta cctacccggg aggcccatgc caaggccttt 540
ggtacatgta gttctcacat ctgtgtcatt ctggccttct acatacctgg tctcttctcc 600
tacctcgcac accgctttgg tcatcacact gtcccaaagc ctgtgcacat ccttctctcc 660
aacatctact tgctgctgcc acctgccctc aaccccctca tctatggggc ccgcaccaag 720
cagatcagag accgactcct ggaaaccttc acattcagaa aaagcccgtt g 771

<210> 578
<211> 1074
<212> DNA
<213> Unknown (H38g427 nucleotide)

<220>
<223> Synthetic construct

<400> 578
gtgagcatga gcttcttaat aagaagtgat tcaacactac acactccaat gtgcttgttc 60
ctcagtcatc tctcctttgt agatctctat tatgccacca atgccactcc tccgatgctg 120
gttaactttt tttttccaag agaaaaaccg tttcctttat tggttgcttt atccaatttc 180
accttttcat tgcactggtg atcacagatt atcatatgct cacagtgatg gtgtatgacc 240
actacatggc catctgcaag cctttgttat atggaagcaa aatgtccagg tgtgtctgcc 300
tctgtctcac tgctgctccc tatatttatg gctctgcaaa tggtctggta caggtcatcc 360
tgatgctttg tctgttcttc tgtgaaccca atgagatcaa ccactttttt ttttttggag 420
aaaatgcatt atatgcacat ttaattccac tataaatttt tgaatggacg gttggagagg 480
aagggagaaa tacatattaa cggagagaat accacccaga aagtatatac aatgggagaa 540
aggaacctgt tgatccaagt ttccatattc ttattatggc atataaggtc atgattattt 600
tctcagtatg aagcatctcc cagggctgac tctgatgtaa aattggagat caaccacttt 660

tattatgcag aaccacccct cttagtcctc gcctgcttgg atacttatgt caaagaaact 720
gccatgttca tggtggctgg ttccaacctc atctgccctc tcactatcat ctttatttcc 780
tacactttca tcttcacaga cattctgcat atctgcactg ctgagggaag gtacaatgcc 840
ttctccacct gcgggtccct tgtgactgcc gtcactgtct ttcaaggaac gctgtttcac 900
atgtgcctga ggccccccttc tgaggcatct gtagaacagg ggaaaattgt agctgctttt 960
tatatctttg tgagtcctac gttaaaccca ttgatctacc gtctgaggaa taaaaatgtt 1020
aaaagaacaa taagggaagt tatccaaaag aaactgtttg ctaagtaagg taga 1074

<210> 579
<211> 937
<212> DNA
<213> Unknown (H38g428 nucleotide)

<220>
<223> Synthetic construct

<400> 579
atgtttggtg ctaatctcac caccttccat cccactctat tcattctcct tggcatccca 60
ggactggagc aataccacat ctggctttcc attcctttct accttatgta catcactgca 120
gtcttgggaa atggagccct catcctagtt gtcctcagtg aacacaccct ccatgtcttc 180
ctatccatgc tggctggcac tgatatcctg ctatccacca ccactgtgcc taaggccttg 240
gcgatcttct gggtccacgc tggggagata gcctttgatg cctgcattac tcagatgttt 300
ttcattcatg ttgcctttgt ggctgagtca ggaatcctgc tggccatggc atttgacagt 360
tatgtagcca tttgtactcc cttgagatac actaccatct taacttctat ggtaaatgga 420
aaaatgaccc tgacaatctg ggacaaagc attgggacaa tttttcctgt catattcctg 480
ctgaagaggc tgccatactg tcagaccaat atcatccccc actcatactg tgagcacatt 540
ggggtggccc aattggcctg tgctgacata actgtcaata tctggtatgg cttttcagtg 600
ccaatggcat cggttttggt agatgttgca ttcattggtt tttcctacac tttgatcctc 660
caggctgtgt ttagacttcc ttcccaggag tcccagcaca aagctcttaa cacctgtggt 720
tctacattgg agttgttctc ctcttcttca tcccatcatt ttttactttc ctgacccacc 780
gctttggcaa gaatatcccc catcatgtcc acatacttct ggcaaatctc tacttgcttg 840
ttccccccatg cttaacccca ttatctacgg agagaagacc aagcaaatca gggacagtat 900
ggctcatatg ttatctgtgg tggggaagtc ttgagac 937

<210> 580
<211> 941
<212> DNA
<213> Unknown (H38g429 nucleotide)

<220>
<223> Synthetic construct

<400> 580
atgaagatga agatagatcc caaatgcaat ggcacggagg taactgaatt tattctgttg 60
ggactgacta gccagccaga gctgcagcct atgctctttg tggtattcct cctgatttac 120
ctcatcaccc tgactgggaa atttgggatg attttcctaa tcagattcac tcctcagctc 180
caaacccaca tgtatttttt ccttactcat ttagcatgtg tggatatttt ttactccact 240
aatgtctctc cacagagctt gttaatttct tatctgagaa gaagaccatt tcctacgctg 300
ggtgtctggc ccagtgtttt gtctttgtga ctctgctcct tactgagtat tacatgcttg 360
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tgtccagagc agtttgcatc tgcctggtga ctttccccta cttctggggt tctatggtgg 480
gcacgatgca agtaatactg acctctcgtt tgtccttttt tggacccaac accatcaacc 540
atttctactg tactgaccca cccctcttaa tgttgacatc ttctgacact tacataaaac 600
aaactgcctt gtttgtgtca gcagggatta acctcacagt ttccctgctc atcattctca 660
tctcctacat tttcattttc atcaccatta tgaggatccg ttccagtgaa gggcagctca 720
aagccttctc cacctgtggc tcccacctga cagctgtcac tatgttctat gggtccctat 780
tctgcatgta cctgagacca acaaatgagc tgtctgttga gcaagggaaa atgggagtgg 840
tgttttgtat ttttgtgagt cccatgctga acccgtttat ctaccgcctg agaaacaagg 900
atgtgaaaca ggccttgaaa agagtgttta tgagaaacct t 941

<210> 581

<211> 958
<212> DNA
<213> Unknown (H38g430 nucleotide)

<220>
<223> Synthetic construct

<400> 581
atgagtcttc tattctgaga ctaagatatg agaaacttta caccactgtc tggatttatt 60
atcctgggat tcacggatca cccagaatta cagtgtcttc tttttgtgtt gtttcttctc 120
atctatatgt tcaccgttgt tggaaatctt ggcatgattc tattaatcaa gattgactca 180
catctccata ctccaatgta ctttttcctc agtaacttgt gccttgttga cttctgttat 240
tcttctgtca ttgcccctaa tatgctgata aatttctggg tggagaaccc agtcatttca 300
tttaatgaat gtgccactca attcttcttt tttggctcct ttgctggcat tgagggtttt 360
ctgttggctg tcatggccta tgactgttat gtggccatct gcaagcctct gctttataca 420
gtcctgatgt caccccacct cagtgccctc ctggtgttag ccacatatct tttgggcttt 480
gtaaatgctg ccattcacac tggcttcacc ttccagctgt cattctgcca ctccaatatc 540
attaactatt tttttgtga tattccaccc ctcctgaaac tcttgttctg atacacacat 600
caatgaggtt gtcattttg cctttgccag ttttaatgaa ttgagctgtc tcctactgat 660
tcttgtttcc tgtctctaca tccttgctgc catcttgaag atccactctg cagaagggag 720
gcacaaggcc ttctccacct gtgcttccca cttggcggtg gtcactatct tctttgggac 780
aatcctgttc atgtatctct gcgtcccagc tccagctact caatggatca agacaaagtg 840
gtgtctgtct tacacagtag tcatccccat gttgaatcct ttcatctata gtttgagaaa 900
caaggaagtc aaagcttctt taagtaaaat gtttaaaaca gtctcttata tctctact 958

<210> 582
<211> 897
<212> DNA
<213> Unknown (H38g431 nucleotide)

<220>
<223> Synthetic construct

<400> 582
atgggattac caggcattca tgagtggcag cactggctct ccctgcccct gactctgctc 60
tacctcttag ctcttggtgc caacctcctc atcataatca ccattcaaca tgagaccgtg 120
ctacatgaac ccatgtacca tttgctgggc atattagcag tggtggacat tggcctggcc 180
accaccatca tgcccaagat cctggccatc ttctggtttg atgccaaggc cattagcctc 240
cccatgtgtt ttgctcagat ctatgccatc cactgcttct tctgcataga gtcaggcatc 300
tttctctgca tggcagtaga cagatacata gccatctgtc gccctcttca gtacccctcc 360
atagtcacta aagcttttgt cttcaaagcc acagggttca tcatgctcag gaatggcctg 420
ttgaccatcc cagtgcctat actggctgcc cagagacact actgttccag gaatgaaatc 480
gagcactgcc tctgctctaa cttggggggtt atcagcctgg cttgtgatga catcactgtg 540
aacaaatttt accaactgat gctagcatgg gtcttggttg ggagtgatat ggctctggta 600
ttttcttcct atgctgtaat ccttcactct gtgctgaggc tgaactcagc agaagcaatg 660
tccaaggctc tgagcacttg tagctcccac ctcatcctca tcctcttcca cacaggtatc 720
attgtgctgt ctgtcacaca ccttgcagag aaaaagattc cccttattcc tgtgttcctt 780
aatgtgctgc acaatgtcat cccccctgca ctcaaccccc tggcctgtgc actcaggatg 840
cacaaactca gactgggctt tcagagactg cttggactgg gtcaggacgt gtccaag 897

<210> 583
<211> 951
<212> DNA
<213> Unknown (H38g432 nucleotide)

<220>
<223> Synthetic construct

<400> 583
atgatgagac ttatgaaaga ggttcgaggc agaaatcaaa cagaagtaac agaatttctc 60
ctcttaggac tttccgacaa tccagatcta caaggagtcc tctttgcatt gtttctgttg 120

atctatatgg caaacatggt gggcaatttg gggatgattg tattgattaa gattgatctc 180
tgtctccaca cccccatgta tttctttctc agtagcctct cttttgtaga tgcctcttac 240
tcttcttccg tcactcccaa gatgctggtg aacctcatgg ctgagaataa ggccatttct 300
tttcatggat gtgctgccca gttctacttc tttggctcct tcctggggac tgagtgcttc 360
ctgttggcca tgatggcata tgaccgctat gcagccattt ggaacccccct gctctaccca 420
gttctcgtgt ctgggagaat ttgctttttg ctaatagcta cctccttctt agcaggttgt 480
ggaaatgcag ccatacatac agggatgact tttaggttgt ccttttgtgg ttctaatagg 540
atcaaccatt tctactgtga caccccgcca ctgctcaaac tctcttgctc tgatacccac 600
ttcaatggca ttgtgatcat ggcattctca agttttattg tcatcagctg tgttatgatt 660
gtcctcattt cctacctgtg tatcttcatt gccgtcttga agatgccttc gttagagggc 720
aggcacaaag ccttctccac ctgtgcctct tacctcatgg ctgtcaccat attctttgga 780
acaatcctct tcatgtactt gcgccctaca tctagctact caatggagca agacaaggtt 840
gtctctgtct tttatacagt aataatccct gtgctaaatc ccctcatcta tagtttaaaa 900
aataaggatg taaaaaaggc cctaaagaag atcttatgga aacacatctt g 951

<210> 584
<211> 951
<212> DNA
<213> Unknown (H38g433 nucleotide)

<220>
<223> Synthetic construct

<400> 584
atgagtcaca ccaatgttac catcttccat cctgcagttt ttgtccttcc tggcatccct 60
gggttggagg cttatcacat ttggctgtca atacctcttt gcctcattta catcactgca 120
gtcctgggaa acagcatcct gatagtggtt attgtcatgg aacgtaacct tcatgtgccc 180
atgtatttct tcctctcaat gctggccgtc atggacatcc tgctgtctac caccactgtg 240
cccaaggccc tagccatctt ttggcttcaa gcacataaca ttgcttttga tgcctgtgtc 300
acccaaggct tctttgtcca tatgatgttt gtgggggagt cagctatcct gttagccatg 360
gcctttgatc gctttgtggc catttgtgcc ccactgagat atacaacagt gctaacatgg 420
cctgttgtgg ggaggattgc tctggccgtc atcacccgaa gcttctgcat catcttccca 480
gtcatattct tgctgaagcg gctgcccttc tgcctaacca acattgttcc tcactcctac 540
tgtgagcata ttggagtggc tcgtttagcc tgtgctgaca tcactgttaa catttggtat 600
ggcttctcag tgcccattgt catggtcatc ttggatgtta tcctcatcgc tgtgtcttac 660
tcactgatcc tccgagcagt gtttcgtttg ccctcccagg atgctcggca caaggccctc 720
agcacttgtg gctcccacct ctgtgtcatc cttatgtttt atgttccatc cttctttacc 780
ttattgaccc atcattttgg gcgtaatatt cctcaacatg tccatatctt gctggccaat 840
ctttatgtgg cagtgccacc aatgctgaac cccattgtct atggtgtgaa gactaagcag 900
atacgtgagg gtgtagccca ccggttcttt gacatcaaga cttggtgctg t 951

<210> 585
<211> 915
<212> DNA
<213> Unknown (H38g434 nucleotide)

<220>
<223> Synthetic construct

<400> 585
atgcagagga gcaatcatac agtgactgag tttatactgc tgggcttcac cacagaccca 60
ggaatgcagc tgggcctctt cgtggtgttc ctgggcgtgt actctctcac tgtggtagga 120
aatagcaccc tcatcgtgtt gatctgtaat gactcctgcc tccacacacc catgtatttt 180
gtcgctggaa atctgtcgtt tctggatctc tggtattctt ctgtctacac cccaaagatc 240
ctagtgacct gcatctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc 300
ttcttctctg cagggctggc ctatagtgag tgctacctgc tggctgccgt ggcttatgac 360
cgctacgtgg ccatctccaa gcccctgctt tatgcccagg ccatgtccat aaagctgtgt 420
gcattgctgg tagcagtctc atattgtggt ggctttatta actcttcaat catcaccaag 480
aaaacgtttt cctttaactt ctgccgtgaa aacatcattg atgacttttt ctgtgatttg 540
cttcccttgg tggagctggc ctgtggcgag aagggcggct ataaaattat gatgtacttc 600
ctgctggcct ccaatgtcat ctgccccgca gtgctcatcc tggcctccta cctctttatc 660

```
atcaccagtg tcttgaggat ctcctcctcc aagggctacc tcaaagcctt ctccacatgc     720
tcctcccacc tgacctctgt cactttatac tatggctcca ttctctacat ctacgctctc     780
cccagatcta gctattcttt tgatatggac aaaatagttt ctacatttta cactgtggta     840
ttccccatgt tgaatctcat gatctacagc ctaaggaata aggatgtgaa agaggctctg     900
aaaaaacttc tccca                                                      915
```

<210> 586
<211> 942
<212> DNA
<213> Unknown (H38g435 nucleotide)

<220>
<223> Synthetic construct

<400> 586

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atgcttccct ctaatatcac ctcaacacat ccagctgtct tttgttggt aggaattcct      60
ggtttggaac acctgcatgc ctggatctcc atccccttct gctttgctta tactctggcc     120
ctgctaggca actgtaccct tctcttcatt atccgggctg atgcagccct ccatgaaccc     180
atgtacctct ttctggccat gttggcaacc attgacttgg ttctttcttc tacaacgctg     240
cccaaaatgc ttgccatatt ctggttcagg gatcaggaga tcaacttctt tgcctgtctg     300
gtccagatgt tcttccttca ctccttctcc atcatggagt cagcagtgct gctggccatg     360
gcctttgacc gctatgtggc catctgcaag ccattgcact acacgacggt cctgactggg     420
tccctcatca ccaagattgg catggctgct gtggcccggg ctgtgacact aatgactcca     480
ctccccttcc tgctcagacg cttccactac tgccgaggcc cagtgattgc ccattgctac     540
tgtgaacaca tggctgtggt aaggctggcg tgtggggaca ctagcttcaa caatatctat     600
ggcattgctg tggccatgtt tagtgtggtg ttggacctgc tctttgttat cctgtcttat     660
gtcttcatcc ttcaggcagt tctccagctt gcctctcagg aggcccgcta caaggcattt     720
gggacatgtg tgtctcacat aggtgccatc ctgtccacct acactccagt agtcatctct     780
tcagtcatgc accgtgtagc ccgccatgct gcccctcgtg tccacatact ccttgctatt     840
ttctatctcc ttttcccacc catggtcaat cctatcatat atggagtcaa gaccaagcag     900
attcgtgagt atgtgctcag tctattccag agaaagaaca tg                        942
```

<210> 587
<211> 937
<212> DNA
<213> Unknown (H38g436 nucleotide)

<220>
<223> Synthetic construct

<400> 587

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atgttaaaga aaaaccatac agccgtgact gagtttgttc tcctgggact gacagatcgg      60
gctgagctgc agtcccttct ttttgtggta tttctagtca tctaccttat cacagtaatc     120
ggcaatgtga gcatgatctt gttaatcaga agtgactcga cactacacac tccaatgtac     180
ttcttcctca gtcacctctc ctttgtagat ctctgttata ccaccaatgt tactcctcag     240
atgctggtta actttttatc caagagaaaa accatttcct tcatcggctg ctttatccaa     300
tttcactttt tcattgcact ggtgattaca gattattata tgctcacagt gatggcttat     360
gaccgctaca tggccatctg caagcccttg ttatatggaa gcaaaatgac caggtgtgtc     420
tgcctctgtc tcgctgctgc tccctatatt tatggctttg caaatggtct aagcacagac     480
caccctgatg cttcgtctgt ccttctgtgg acccaatgac atcaaccact tttactgtgc     540
ggacccaccc ctcttagtcc tcgcctgctc agatacttat gtcaaagaga ccgccatgtt     600
ggtggtggct ggttccaacc tcatttgctc tctcaccgtc atcctcattt cctacacttt     660
catcttcact gccattctgc gtatccacac tgctgagggg aggcgcaagg ccttctccac     720
ctgcgggtct catgtgaccg ctgtcactgt cttctatggg acactgttct gcatgtacct     780
gaggcccccт tctgagacat ctatacaaca ggggaaaatt gtagctgttt tttatatctt     840
tgtgagtccg atgttaaacc cattgatcta cagcctgagg aataaagacg ttaaaagaag     900
tataaggaaa gttattcaaa agaaactgtt tgctaag                              937
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<210> 588
<211> 942
<212> DNA

<213> Unknown (H38g437 nucleotide)

<220>
<223> Synthetic construct

<400> 588
atgtcagcct ccaatatcac cttaacacat ccaactgcct tcttgttggt ggggattcca 60
ggcctggaac acctgcacat ctggatctcc atccctttct gcttagcata tacactggcc 120
ctgcttggaa actgcactct ccttctcatc atccaggctg atgcagccct ccatgaaccc 180
atgtacctct ttctggccat gttggcagcc atcgacctgg tcctttcctc ctcagcactg 240
cccaaaatgc ttgccatatt ctggttcagg gatcgggaga taaacttctt tgcctgtctg 300
gcccagatgt tcttccttca ctccttctcc atcatggagt cagcagtgct gctggccatg 360
gcctttgacc gctatgtggc tatctgcaag ccactgcact acaccaaggt cctgactggg 420
tccctcatca ccaagattgg catggctgct gtggcccggg ctgtgacact aatgactcca 480
ctcccccttcc tgctgagatg tttccactac tgccgaggcc cagtgatcgc tcactgctac 540
tgtgaacaca tggctgtggt gaggctggcg tgtggggaca ctagcttcaa caatatctat 600
ggcatcgctg tggccatgtt tattgtggtg ttggacctgc tccttgttat cctgtcttat 660
atctttattc ttcaggcagt tctactgctt gcctctcagg aggcccgcta caaggcattt 720
gggacatgtg tctctcatat aggtgccatc ttagccttct acacaactgt ggtcatctct 780
tcagtcatgc accgtgtagc ccgccatgct gcccctcatg tccacatcct ccttgccaat 840
ttctatctgc tcttcccacc catggtcaat cccataatct atggtgtcaa gaccaagcaa 900
atccgtgaga gcatcttggg agtattccca agaaaggata tg 942

<210> 589
<211> 936
<212> DNA
<213> Unknown (H38g438 nucleotide)

<220>
<223> Synthetic construct

<400> 589
atgtcagcct ccagtatcac ctcaacacat ccaacttcct tcttgttgat ggggattcca 60
ggcctggagc acctgcacat ctggatctcc atccccttct cagcatatac actggccctg 120
cttggaaact gcaccctcct tctcatcatc caggctgatg cagccctcca tgagcccata 180
tacctctttc tggccatgtt ggcagccatc gacctggtcc tttcctcctc agcattgccc 240
aaaatgcttg ccatattctg gttcagggat cgggagatca actttttgc ctgtctggtc 300
cagatgttct tccttcactc cttctccatc atggagtcag cagtgctgct ggccatggcc 360
tttgaccgct atgtggccat ctgcaagcca ctgcactaca ccacggtcct gactgggtcc 420
ctcatcacca agattggcat ggctgctgtg gcccgggctg tgacactaat gactccactc 480
cccttcctgc tgagatgttt ccactactgc cgaggcccag tgattgcccg ctgctactgt 540
gaacacatgg ctgtggtcag gctggctgtg ggaacactag cttcaacaat atctatggca 600
ttgctgtggc catgtttatt ggagtgttgg atctattctt tatcatccta tcttatatct 660
ttatccttca ggcagttcta caactctcct ctcaggaggc ccgctacaaa gcatttggga 720
catgtgtctc tcacataggt gccatcttag ccttctacac accttcagtc atctcttcag 780
tcatgcaccg tgtggcccgc tgtgctgcgc cacacgtcca cattctcctc gccaatttct 840
atctgctctt cccacccatg gtcaatccca tcatctacgg cgttaagacc aagcagatcc 900
gtgacagtct tgggagtatt cccgagaaag gatgtg 936

<210> 590
<211> 955
<212> DNA
<213> Unknown (H38g439 nucleotide)

<220>
<223> Synthetic construct

<400> 590
atgacaaccc acaactccac tggtagcagc cactcactct tcattctgct gagcattcct 60
ggcttagaag accagcacac atggatgtct ctccccttct ttatttccta ccttgttgct 120
ttccttggga acagcctcat catcttcatc atcatcactg aatgcagcct ccacgaaccc 180

atgtaccttt tcctctgcat gctggctgtg gctgacctta tcctgtctac taccactgtg 240
cccaaggccc tagccatatt ttggttctat gctggagcaa tatcccttgg tggctgtgtt 300
acccaaatct tctttatcca tgctaccttc atcgaggaat caggaattct gttggcgatg 360
gcacttgacc gctatgtggc catctgtgat ccactgcact ataccacagt gctcagtcgt 420
gcaaaaatca caaagattgg cttggctgtg gtcctgagaa gcttctgtgt gatcatgcca 480
gatgtgtttc tggtaaagcg gctgcctttc tgccatagca atctgctgcc acatacctac 540
tgtgagcaca tggctgttgc caagtttgct tgtgctgata ttcatgtcaa tgtttggtat 600
ggcttgtctg tccttctcta tactgtagtg ctagatgcct tgcttatctt agtgtcctaa 660
agcttcatcc tgtatacagg cttccacctc ccctccccaa ggagctcggc aaaaggctct 720
gggcacatgt ggctcccacc tcagagtcat ttccatgttc tacttgcctg gtatttttac 780
cataattacc cagcggtttg ggcaccatgt tcctctccat acacacattc tgctgggtaa 840
tgtctgggtg ttggctcctc ccatgctgaa ccccatcatt tatgggatca acaccaggca 900
gattcaagag tgtgtgctca gtcttttgtc ctcacagagg aaatgatgct agatt 955

<210> 591
<211> 939
<212> DNA
<213> Unknown (H38g440 nucleotide)

<220>
<223> Synthetic construct

<400> 591
atgaattggg taaatgacag catcatacag gagtttattc tgctgggttt ctcagatcga 60
ccttggctgg agtttccact ccttgtggtc ttcttgattt cttacactgt gaccatcttt 120
ggcaatctga ccattattct agtgtcacgc ctggacacca aacttcatac ccccatgtat 180
ttttttctta ccaatctatc actcctggat ctttgttaca ccacatgtac agtcccacaa 240
atgctagtaa atttatgcag catcaggaaa gtaatcagtt atcgtggctg tgtagcccag 300
cttttcatat ttctggcctt gggggctact gaatatcttc tcctggccgt catgtccttt 360
gataggtttg tagctatttg tcggcctctc cattactcag ttatcatgca ccagagactc 420
tgcctccagt tggcagctgc atcctgggtt actggtttta gtaactcagt gtggttgtct 480
accctgactc tccagctgcc actctgtgac ccctatgtga tagatcactt tctctgtgaa 540
gtccctgcac tgctcaagtt atcttgtgtt gagacaacag caaatgaggc tgaactattc 600
cttgtcagtg agctcttcca tctaataccc ctgacactca tccttatatc atatgctttt 660
attgtccgag cagtattgag gatacagtct gctgaaggtc gacaaaaagc atttgggaca 720
tgtggttccc atctaattgt ggtgtctctt ttttatagta cagccgtctc tgtgtacctg 780
caaccacctt cgcccagctc caaggaccaa ggaaagatgg tttctctctt ctatggaatc 840
attgcaccca tgctgaatcc ccttatatat acacttagga acaaggaggt aaaggaaggc 900
tttaaaaggt tggttgcaag agtcttctta atcaagaaa 939

<210> 592
<211> 997
<212> DNA
<213> Unknown (H38g441 nucleotide)

<220>
<223> Synthetic construct

<400> 592
atggaaaaat ccaatgtcag ctcagtgtat ggttttatct tggtgggttt ctctgatcgt 60
cccaagctgg agatggtgct ctttacagta aattttattc tgtattcagt ggctgtgctg 120
ggaaattcaa ccataatcct tgtgtgtata ttagactctc aacttcatac cccaatgtac 180
ttctttctgg caaatctttc ctttctagat ctctgcttca gtactagttg catcccacaa 240
atgctggtaa acctctgggg ccctgacaag actattagct gtgctggctg tgttgtccag 300
cttttctctt tcctttctgt caggggaatt gagtgcatcc ttctggctgt catggcctat 360
gacagctatg ctgcagtctg caaaccgttg cgctatctgg tcattatgca cctccagctg 420
tgtctaggac tgatggctgc agcctggggg agtggactgg tcaatgccgt tgtcatgtca 480
ccactaacaa tgaccctctc cagaagtggc cgccgccgag ttaaccattt cctctgtgaa 540
agccagcact gatcaagatg gcttgtttgg atgttcgtgc agtggaaatg ctggcttttg 600
cttttgccgt tctcattgtc ctactgcccc tcactcttat tcttgtctcc tacggctaca 660
ttgctgcagc tgtgctaagc atcaagtcag ctgccaggca atggaaggcc ttccatacct 720

gtagctctca cctcacagtg gtctccctgt tttatgggag catcatctat atgtatatgc 780
agccaggaaa cagttcttcc caagaccaag gcaagtttct cactctcttc tacaacctgg 840
tgactcctat gttgaatctg ctcatctata ctttaaggaa taaggaggtg aaaggagcac 900
tgaagaaggt tttggggagg caataatgaa ctggagaaat atgataagtt gtgaagtctt 960
aggcaaaata tcttttccaa atacatttat tttgtgc 997

<210> 593
<211> 950
<212> DNA
<213> Unknown (H38g442 nucleotide)

<220>
<223> Synthetic construct

<400> 593
caagtagttc atacaggctt ttctccctag ctatacgtct tcaccctgct gggaaatggg 60
gcatcctggg gctcatctgg ctggactcca gactgcacac ccccatgtac ttctttctct 120
cacacctggc catcattgat atttcgtatg cttccaacaa tgtccccaag atgctgacaa 180
accttggctt gaacaagaga aaaacaatct cctttgtccc atgcacaatg cagacctttt 240
tatacatggc ttttgctcac actgagtgtc tcatcttggt aatgatgtcc tacgatcggt 300
acatggctgt ctgccaccct ctgcaatatt ctgtcatcat gagatgggga gtgtgcacag 360
tcctggctgt cacttcttgg gcatgtggtt ccttctggcc ctggtccatg tggttctcat 420
cctgaggctg cccttctgtg ggccccatga aatcaaccac ttcttctgtg aaatcctgtc 480
tgtcctcaag ttggcctgtg ctgacacctg gctcaaccag gtggtcatct ttgcttcttc 540
agtgttcatc ctggtggggg cgctctgcct ggtgctggtc tcctactcgc gcatcctggc 600
ggccatcttg aggaatcagt ctggggaggg gcgcagaaag ggcttctcca cctgctactc 660
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gtcccgccat cctgaggagc agcagaaagt tctttccctg ttttacagcc ttttcaatcc 780
aatgctgaac cccccctgata tatagcctaa ggaatgcaga ggtcaagggc gccctgagga 840
gtgcactgag gaaggagagg ctgacgtgag acatctcaaa gggaaccatg ggagggagc 900
cttgctccct gcaaaatata gaagttggct tttttttttg tcttctgcta 950

<210> 594
<211> 711
<212> DNA
<213> Unknown (H38g443 nucleotide)

<220>
<223> Synthetic construct

<400> 594
cagatgctga cagattggtg gggacctaat aggaccacaa gttacgtgaa ctcaccattc 60
aattccttgt ctctctgtag ttatgtgcca ctatataatt tctacaatta ttttataatt 120
atatgccatc ctttgtaata tttgttaatc atgaacctat atctcctcct taatcttact 180
ttaatacttg agtgataatt cattcatttt tgtcatcatg tatactctca tcctaaaatt 240
cccaaggtat gaaaaaaaaa aaccttcagg ataattccct ccatgtgttg ctagctatgc 300
tgaaaacagt ttttctagat gctacaattg aagaaatgtc tgtatttgtg ttaatacaat 360
gtaaatgtcc taatatgcct tatcagtaat tttacctgct atggctacat tgaggtgcac 420
taagaatgaa tactagtaat taaattagaa gcaagctgag aaatcagtat catcatcatc 480
atcataggtg tcatttcatt atagattcaa tcttctatgg aatcattgtg taaatgctct 540
tgaagatggt aacaactcct cccaagacca agaaatgatt ctttatcttg ttttacacta 600
tactaactcc aagtctcaaa cttctagttt atctgttaag aataaagata taaaggatat 660
ttcaaggaga atactaagat tggcagggaa tcttcaaaaa tgaaaggaaa c 711

<210> 595
<211> 765
<212> DNA
<213> Unknown (H38g444 nucleotide)

<220>
<223> Synthetic construct

<400> 595
atgtatttcc tactgagtca gctctccctc attgacctaa attacatctc caccattgtt 60
cctaagatgg catctgattt tctgcatgga aacaagtcta tctccttcac tgggtgtggg 120
attcatagtt tcttcttcac gactttagcc gttgtagaag cgctactcct gatatcaatg 180
gcctatgttc gttgcattgc tatttgcttt cctctccact atctcatgcg catgagcaaa 240
agagtgtgtg tgctgatgat aacaggatct tggatcatag gctcgatcaa tgcttgtgct 300
cacactgtat atatactcca tattccttat tgcccatcta gggttatcaa tcatttcttc 360
tgtgatgtcc cagcaatggt gactctggcc tgcatggaca cctgggtcta tgagggcaca 420
gtgcttttga gcgccaccat ctttctcgtg tttcccttca ttgctatttc atgttcctat 480
ggacgggttc tccttgctgt ctaccacatg aaatctgcag aagggaagaa gaaggcctac 540
ctgacctgca gcacccacct cactgtagtg actttctact atgcaccctt tgcttacacc 600
tatctacgcc caagatccct gcgatctccg acagaggaca aggttctggc tgtcttctac 660
accatcctca ctccaatgct caaccccatc atctacagcc tgagaaacaa ggaggtgatg 720
ggggccctga cacgagtgat tcagaaaatc ttttcagtga aaata 765

<210> 596
<211> 960
<212> DNA
<213> Unknown (H38g445 nucleotide)

<220>
<223> Synthetic construct

<400> 596
ctgtcatgac caaccagagc tgcccagaaa cagttcatct tactgggttt ctcaggcaga 60
cccaggctgg agcatgtcct ctttgtgttt gtcctcatct tctaccttgt gaccttagtg 120
ggcaacatca tcattatctt gatctcccac ctggacccct gcctccacat gcccatgtac 180
ttcttcctca ctaacttgtc tttcctagat ctctgcttca ccaccagttc tatcccccag 240
ctgcttttca atctaggcag cccaggcaag actatcagcc acacgggctg tgccatccag 300
ctcttcatgt tcctgggcct gggtggcaag agtgtattct cttggcagcc gtggcctatg 360
accgcttcat tgcaatctgc aagccccttc actattctgt cattatgcac cctcagctgt 420
gctggaagtt ggtgtctgtg gcccgggggt gttggactcc tcagttctct agttatgtct 480
cctgtgacta tgaagctgcc acgatgtgga agatgtaagt tgaaacattt cctgtgtgag 540
atgccagctc taataaaaat cacctgtgtg gacacagtgg ctatggagag cactgttttc 600
accttatcgg tagtaattgt cctgatgcct ttgtgtctta tcctcatctc ttatagctac 660
attgccctag cagtgctgag aatcaagtca gccgcaggaa gaaggaaggc cttcaatatg 720
tgcgggtccc acctcaccgt ggtctccttg ttttatggga atattatcta tatgtatatg 780
caaccatgaa ataattcttc tcaggaccaa gggaagttcc ttaccctttt ctacaactta 840
atgaccccca tgttaaaccc tgtcatctat acactgagaa acaaggatgt aaaaggtgca 900
ctgaagaggc ttgtgtctag aaaacacagt gacagtgact gctcttgaga ctgcttcttt 960

<210> 597
<211> 377
<212> DNA
<213> Unknown (H38g446 nucleotide)

<220>
<223> Synthetic construct

<400> 597
atggaaaatt acaatcaaac atcaactgct ttcatcttgt tgggattgtc gccaccacca 60
aaaattggcc atttcatctt cattctcatt aatttcgttt tcctaatggc tctaattgga 120
aacctatcca tgattcttct catcttcttg gacatccatc tccacacacc catgtatttc 180
ctacttagtc agctctccct cattgaccta aattatattt ccaccattgt tcctaagatg 240
gtttatgatt tttcatgtat ggaaacaagt ctatctcctt cactgggtgt gggattcaga 300
gtttcttctt cctgacttta gcaggtgcag aagcgctgct cctgacatca atggcctatg 360
atcgttatgt ggctatt 377

<210> 598
<211> 979

<212> DNA
<213> Unknown (H38g447 nucleotide)

<220>
<223> Synthetic construct

<400> 598
atggaaagag ctaacgacag caccttctct ggattcatcc tcctgggctt ctccaacagg 60
cctcagctgg aaacagctct ctttgtggtc atcttgatca tctactttct gagctttctg 120
ggcaatggca ccattatact tttatccatt gtagatcctc gcctccatac ccctatgtat 180
ttcttcctct ccaatctctc ttttatggat ctttgtttga ccacttgtac tgtccctcag 240
acactggtca actttaaggg gaaggacaag accatcacct atggtggctg cgtgacccag 300
ctattcattg ccttgggact cgggggggagt ggagtgtgtc ttattgtctg ccatggccta 360
tgaccgctat gcagccgtct gccgcccact ccactacatg gtgagcatgc atccccaact 420
ttgcttgcag ttggttgtaa ccacttggct cacagggttt ggcaattctg tgatacagac 480
agcattgacc atgactctcc ccctctgtga taaaaaccaa gtggatcatt tcttctgtga 540
agttccagtg atgctgaaac tgtcctgcac caacacctcc atcaacgagg ctgaaatctt 600
tgctgtcagt gtcttcttct tggtggtgcc tctctcactc atcttagcat cctatggtca 660
cattactcat gcagtcctga agataaagtc agctcaaggg aggcagaagg cttttggaac 720
ctgtggttct cacctcctgg tagtgatcat tttctttggg acactcatct ccatgtacct 780
ccagcctccc tccagttatt cacaggatgt gaacaaaagc attgcactct tctatactct 840
ggtgactcct ctactgaatc ccctaattta cactctgagg aacaaggaag tcaaaggggc 900
aactaagaag actagtgggg aggaccatag atgcatgaga aagttaacgc agggtttgca 960
gttccaaaca tttgtgcac 979

<210> 599
<211> 936
<212> DNA
<213> Unknown (H38g448 nucleotide)

<220>
<223> Synthetic construct

<400> 599
atggaaaatt acaatcaaac atcaactgat ttcatcttat tggggctgtt tccaccatca 60
ataattgacc ttttcttctt cattctcatt gttttcattt tcctgatggc tctaattgga 120
aacctgtcca tgattcttct catcttcttg gacacccatc tccacacacc catgtatttc 180
ctactgagtc agctctccct cattgaccta aattacatct ccaccattgt tcctaagatg 240
gcatctgatt ttctgcatgg aaacaagtct atctccttca ctgggtgtgg gattcagagt 300
ttcttcttct tggcattagg aggtgcagaa gcactacttt tggcatctat ggcctatgat 360
cgttacattg ctatttgctt tcctctccac tatctcatcc gcatgagcaa aagagtgtgt 420
gtgctgatga taacagggtc ttggatcata ggctcgatca atgcttgtgc tcacactgta 480
tatgtactcc atattcctta ttgccgatcc agggccatca atcatttctt ctgtgatgtc 540
ccagcaatgg tgactctggc ctgcatggac acctgggtct atgagggcac agtgtttttg 600
agtgccacca tctttctcgt gtttcccttc attggtattt catgttccta tggccaggtt 660
ctctttgctg tctaccacat gaaatctgca gaagggagga agaaagccta tttgacctgc 720
agcacccacc tcactgtagt aactttctac tatgcacctt ttgtctacac ttatctacgt 780
ccaagatccc tgcgatctcc aacagaggac aaggttctgg ctgtcttcta caccatcctc 840
accccaatgc tcaaccccat catctatagc ctgaggaaca aggaggtgat gggggccctg 900
acacgagtga gtcagagaat ctgctctgtg aaaatg 936

<210> 600
<211> 936
<212> DNA
<213> Unknown (H38g449 nucleotide)

<220>
<223> Synthetic construct

<400> 600
atgcccaatt caaccaccgt gatggaattt ctcctcatga ggttttctga tgtgtggaca 60

ctacagattt tacattctgc atccttcttt atgttgtatt tggtaactct aatgggaaac 120
atcctcattg tgaccgtcac cacctgtgac agcagccttc acatgcccat gtacttcttc 180
ctcaggaatc tgtctatctt ggatgcctgc tacatttctg ttacagtccc tacctcatgt 240
gtcaattccc tactggacag caccaccatt tctaaggcgg gatgtgtagc tcaggtcttc 300
ctcgtggttt tttttgtata tgtggagctt ctgtttctca ccattatggc tcatgaccgc 360
tatgtggctg tctgccagcc acttcactac cctgtgatcg tgaactctcg aatctgcatc 420
cagatgacac tggcctccct actcagtggt cttgtctatg caggcatgca cactggcagc 480
acattccagc tgcccttctg tcggtccaac gttattcatc aattcttctg tgacatcccc 540
tctctgctga agctctcttg ctctgacacc ttcagcaatg aggtcatgat tgttgtctct 600
gctctggggg taggtggcgg ctgtttcatc tttatcatca ggtcttacat tcacatcttt 660
tcgaccgtgc tcgggtttcc aagaggagca gacagaacaa aggccttttc cacctgcatc 720
cctcacatcc tggtggtgtc agtcttcctc agttcatgct cttctgtgta cctcaggcca 780
cctgcgatac ctgcagccac ccaggatctg atcctttctg gtttttattc cataatgcct 840
cccctcttta accctattat ttacagtctt agaaataagc aaataaaggt ggccatcaag 900
aaaatcatga agagaatttt ttattcagaa aatgtg 936

<210> 601
<211> 931
<212> DNA
<213> Unknown (H38g450 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(931)
<223> n = A,T,C or G

<400> 601
aggaatgccc cactggaaaa atacaatcaa acatcaactg atttcatctt attggggatc 60
ttcccaccat ccagaattgg ctttctcctc ttcattctcc ttgttctcat tttgctattg 120
gctttaattg gcaatcagtc cgtgatcctt ctcatcttct tggacactca tctccacacg 180
cccatttatt tcttacttag tcggctctac ctcattgacc taaattacat ctccactatt 240
gtccccagat gttttctgat ttctgtttg gaaacaagtc tatttccttc attgggtgtg 300
gaattcagag tttcttcttt gtgactttag caggtgcaga aatgctgcca ctgacatcaa 360
tggcctgtga tcattatgta gctgtttgct ttcctctcca ctatcccatc catatgagca 420
agatagtatg tgctgatgat aataggatct tggataatgg gctctatcga cacttgtgct 480
cacatttcat atatgcccca tatccctgtt gctcagccag ggctgtgatg tcccagccat 540
ggtgactctg gccttcgtgg acacctgggt ctatgagtgc acagtgtttt tgagcacaac 600
cctctttctc atgtttacct ttattggtat tgcatgttcc tatggtgagg ttctccttac 660
tgtctaccac attaaatctg cagaagggag gaagaaggcc tattcgacct gtagcaccca 720
cctcactgta gtaattntct actatgcaat gtttgcttat acctatctat atccaagata 780
cctgcaatct ccaacagagg acaaggttct ggctgtgttc tacaccatcc tcacctcaat 840
gctcaacccc atcatctaca gcctgagaaa cagggaggtg atgggggccc tgacacgagt 900
gagtcagaga atcttccctg tgaagatgaa g 931

<210> 602
<211> 577
<212> DNA
<213> Unknown (H38g451 nucleotide)

<220>
<223> Synthetic construct

<400> 602
agacacacag agccacggaa tctcacaggt gtctgagaat tcctcctcct gggactctca 60
gaggatccag aactgcagcc tgtcctcgct ttgctgtccc tgtccctgtc cctgtccttg 120
tatctggtca tggttctgag gaacctgctc agcatcctgg ctgtcagctc tgactccccc 180
ctccataccc ccatgtactt cttcctctcc aacctgtgct gggctgacat cgggttcact 240
tcggccacgg ttcccaaggt gactgtggac atgcagtcgc atagcagagt catctctcat 300
gcgggctgcc tgacacagat gtctttcttg gtcctttttt gcatgtatag aatgcatgct 360

```
cctgactgtg atggcctatg acggctttgt agccatctgt ctccctctgc actacccagt     420
catcatgaat cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttagcctgtt     480
ggattcccag ctgcacggtt ggattgtgtg acaattcacc atcatgaaga atgtggaaat     540
ctctcatttt gtaagtgacc cctctcaact tctcaac                              577
```

<210> 603
<211> 952
<212> DNA
<213> Unknown (H38g452 nucleotide)

<220>
<223> Synthetic construct

<400> 603

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atggacagaa gaaaccagac ctgcatctat gaatttcttc tcatgggctt ctctgaacac      60
caggagcagc aggctctttt gtttgggctt ttcctggtca tgtacttggt cactgtgttg     120
gagaacctgc taatcatcct ggccattggc tctgacctgc acctccacac cccccatgta     180
cctcttcctg tccaacctgt cctttttgga tattggcttt atctctacaa taattcccaa     240
gatgctagat catattagct caggaattaa gctgatttct tatggggagt gtctgacaca     300
actctatttc tctggcctat ttgcagatct ggacaacaac tttctcctgg ctgtgatggc     360
ccttgaccgc tatgtggcca tcagccatcc tctccattat gccctaacca tgaactccca     420
acgctgtgtc ctgttggtgg ctgtgtcatg ggtgatcact attttacatg ccctagtgca     480
taccctccta gtgaccaggc tttccttctg tggtccaaat attatccctc acttcttctg     540
tgatctggtc ccactcctga agctggcctg ctccagtact tgtgtcaatg atctggtgct     600
catccttgtg gcaggaacac tgctgattgc gccctttgtc tgcatcctta tgtcctactt     660
ttacattgca ttggccatcc tgagaattga ttccccaagg ggtaagcaaa gggccttctc     720
cagctgcact tcccacctct ctgtagtctc tctgttctat agcacagcta tcggtgtcta     780
tttatgtcct ccatcatccc actcagatgg aaaggacaga gtcttctcag tcatgtacac     840
ggtggtgact cccatgttga acccccttcat ctacagcctg aggaacaggg atatgaaggg     900
ggcactggga aaactgcttg gaataaaaac atcctaacac ccttactcaa ga             952
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<210> 604
<211> 754
<212> DNA
<213> Unknown (H38g453 nucleotide)

<220>
<223> Synthetic construct

<400> 604

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catttgtagt ggtgcgtgtt cagatacctg ggtattgtgg tggagataca catagtcttt      60
tgaacattcc gttgtaggtc gctggtagct ggatatgtcc tttaaacttt tgtggcaatt     120
catttgagaa gaaacgcagc tttttctatt gagttcttat gctataagta aaggatgcaa     180
gacattaatt agacaaaata aggtaaaatt ttgtattcgc ttagagagtt taagaggcta     240
ttagccacta gtctctatag tgcctaagta aatcgattct gcttaataaa ctgctacctg     300
gcttagtaag taaacaaatt gaaacttatt ttaggaaaga aatatatatt cttatatcta     360
catcagattc tcttatgtag aaacactaga gggtgaatga ggagttaatg taagcagcat     420
catatttttg ctcattcctt tctctatgat ttctgcttct tctgtccaaa ttctgtgagg     480
tgtcctctag atgaaattat cacaggcatg gaaaaggtca ttttccactt ggtccatcct     540
catgattgca gttgtaacat actgggactc attcattttc acatatgtat atgagactta     600
aatcatccac atttcaggcc aggttaagtt tctagaaata ttctatgctt tccttgcact     660
tacactcaat cctgtcgtct acagcgttgg cactgacagt gttctggtgg caatgaaaaa     720
tatgctctag agcaacattc tacataaaaa aaag                                 754
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<210> 605
<211> 939
<212> DNA
<213> Unknown (H38g454 nucleotide)

<220>
<223> Synthetic construct

<400> 605
atggaccaga tcaaccacac taatgtgaag gagtttttct tcctggaact tacacgttcc 60
cgagagctgg agtttttctt gtttgtggtc ttctttgctg tgtatgtagc aacagtcctg 120
ggaaatgcac tcattgtggt cactattacc tgtgagtccc gcctacacac tcctatgtac 180
tttctcctgc ggaacaaatc agtcctggac atcgtttttt catctatcac cgtccccaag 240
ttcctggtgg atcttttatc agacaggaaa accatctcct acaatgactg catggcacag 300
atcttttttct tccactttgc tggtggggca gatatttttt tcctctctgt gatggcctat 360
gacagatacc ttgcaatcgc caagcccctg cactatgtga ccatgatgag gaaagaggtg 420
tgggtggcct tggtggtggc ttcttgggtg agtggtggtt tgcattcaat catccaggta 480
attctgatgc ttccattccc cttctgtggc cccaacacac tggatgcctt ctactgttat 540
gtgctccagg tggtaaaact ggcctgcact gacacctttg ctttggagct tttcatgatc 600
tctaacaacg gactggtgac cctgctctgg ttcctcctgc tcctgggctc ctacactgtc 660
attctggtga tgctgagatc ccactctggg gaggggcgga acaaggccct ctccacgtgc 720
acgtcccaca tgctggtggt gactcttcac ttcgtgcctt gtgtttacat ctactgccgg 780
cccttcatga cgctgcccat ggacacaacc atatccatta ataacacggt cattaccccc 840
atgctgaacc ccatcatcta ttccctgaga aatcaagaga tgaagtcagc catgcagagg 900
ctgcagagga gacttgggcc ttccgagagc agaaaatgg 939

<210> 606
<211> 927
<212> DNA
<213> Unknown (H38g455 nucleotide)

<220>
<223> Synthetic construct

<400> 606
atggaaagaa tcaaccacac cagcagtgtc tccgagttta tcctcctggg actctcctcc 60
cggcctgagg accaaaagac actctttgtt ctcttcctca tcgtgtacct ggtcaccata 120
acagggaacc tgctcatcat cctggccatt cgcttcaacc cccatcttca gacccctatg 180
tatttcttct tgagttttct gtctctcact gatatttgct ttacaacaag cgttgtcccc 240
aagatgctga tgaacttcct gtcagaaaag aagaccatct cctatgctgg gtgtctgaca 300
cagatgtatt ttctctatgc cttgggcaac agtgacagct gccttctggc agtcatggcc 360
tttgaccgct atgtggccgt ctgtgaccct ttccactatg tcaccaccat gagccaccac 420
cactgtgtcc tgctggtggc cttctcctgc tcatttcctc acctccactc actcctgcac 480
acacttctgc tgaatcgtct caccttctgt gactccaatg ttatccacca ctttctctgt 540
gacctcagcc ctgtgctgaa attgtcctgc tcttccatat ttgtcaatga aattgtgcag 600
atgacagaag cacctattgt tttggtgact cgttttctct gcattgcttt ctcttatata 660
cgaatcctca ctacagttct caagattccc tctacttctg ggaaacgcaa agccttctcc 720
acctgtggtt tttacctcac cgtggtgacg ctcttttatg gaagcatctt ctgtgtctat 780
ttacagcccc catccaccta cgctgtcaag gaccacgtgg caacaattgt ttacacagtt 840
ttgtcatcca tgctcaatcc ttttatctac agcctgagaa acaaagacct gaaacagggc 900
ctgaggaagc ttatgagcaa gagatcc 927

<210> 607
<211> 939
<212> DNA
<213> Unknown (H38g456 nucleotide)

<220>
<223> Synthetic construct

<400> 607
atggccaatg tcaccttggt gacaggattt cttcttatgg ggttttctaa tatccagaag 60
ctgcggattt tatatggtgt gctcttccta ctgatttacc tggcagccct aatgagtaac 120
cttctcatca ttactctcat taccctggac gtaaagctcc aaacacccat gtacttcttc 180
ctgaagaact tatccttttt ggatgtcttc ctggtgtctg ttccaatccc aaaattcatt 240
gtcaacaacc taacccacaa caattccatt tccattctag gatgtgcctt ccagctactt 300
ttaatgactt ccttctcagc aggagagata tttatcctca ctgccatgtc ctatgaccgc 360
tatgtagcca tctgctgtcc cctgaactac gaggtaatca tgaatactgg agtctgtgtg 420

ttaatggcaa gtgtttcctg ggccattgga gggctctttg gtactgcgta cacagctggc 480
acattttcca tgcctttctg tggctccagt gtgattccac agtttttctg tgatgttcct 540
tcattactaa ggatttcctg ttctgaaaca ctaatggtaa tttatgcagg tattggagtt 600
ggtgcatgtt taagcatttc ttgtttcatc tgtattgtga tctcttacat ttatatcttc 660
tccactgtac tgaagatccc taccactaaa ggtcagtcca aagctttttc cacatgcttc 720
ccccatctca ctgttttcac tgtttttatc ataactgctt attttgttta tcttaagcca 780
ccttcaaatt caccatctgt tattgacagg ctgctttctg tgatctacac tgtgatgcct 840
ccagtattta accctgtaac ctacagcctg cggaacaatg acatgaaatg tgctctgata 900
aggttgctgc agaaaacata tggtcaggag gcttacttc 939

<210> 608
<211> 972
<212> DNA
<213> Unknown (H38g457 nucleotide)

<220>
<223> Synthetic construct

<400> 608
atggctgtag gaaggaacaa cacaattgtg acaaaattca ttctcctggg actttcagac 60
catcctcaaa tgaagatttt ccttttcatg ttatttctgg ggctctacct cctgacgttg 120
gcctggaact taagcctcat tgccctcatt aagatggact ctcacctgca catgcccatg 180
tacttcttcc tcagtaacct gtccttcctg gacatctgct atgtgtcctc caccgcccct 240
aagatgctgt ctgacatcat cacagagcag aaaaccattt cctttgttgg ctgtgccact 300
cagtactttg tcttctgtgg gatggggctg actgaatgct ttctcctggc agctatggcc 360
tatgaccggt atgctgcaat ctgcaacccc ttgctttaca cagtcctcat atcccataca 420
ctttgtttaa agatggtggt tggcgcctat gtgggtggat tccttagttc tttcattgaa 480
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gacctccctc cagtcctggc tctgtcctgc tctgatacct tcaccagcga ggtggtgacc 600
ttcatagtca gtgttgtcgt tggaatagtg tctgtgctag tggtcctcat ctcttatggt 660
tacattgttg ctgctgttgt gaagatcagc tcagctacag gtaggacaaa ggccttcagc 720
acttgtgcct ctcacctgac tgctgtgacc ctcttctatg gttctggatt cttcatgtac 780
atgcgaccca gttccagcta ctccctaaac agggacaagg tggtgtccat attctatgcc 840
ttggtgatcc ccgtggtgaa tcccatcatc tacagtttta ggaataagga gattaaaaat 900
gccatgagga aagccatgga aagggacccc gggatttctc acggtggacc attcattttt 960
atgaccttgg gc 972

<210> 609
<211> 942
<212> DNA
<213> Unknown (H38g458 nucleotide)

<220>
<223> Synthetic construct

<400> 609
atgaccaatc agacacagat gatggaattc ttgcttgtga gatttactga gaattgggtg 60
ctcctgaggc tgcatgcttt gctcttctca ctgatctacc tcacggctgt gctgatgaat 120
ttagtcatca ttctcctcat gattctggac catcgtctcc acatggcaat gtactttttc 180
ctccgacatt tgtccttctt agacctgtgt ctcatttctg ccacagtccc caaatccatc 240
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tatgctgcca tctgctgccc cctacactgt gaggctgtca tgagcagagg gctctgtgtc 420
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acattctctc tgaattttta tggctctgat gagctacatc agttcttctg cgatgtccct 540
gccctactaa agctcacttg ttctaaagaa catgccatca ttagtgtcag tgtggccatt 600
ggggtctgtt atgcattttc atgtttagtt tgcattgtag tttcctatgt gtacattttc 660
tctgctgtgt taaggatatc acagagacag agacaatcca aagccttttc caactgtgtg 720
cctcacctca ttgttgtcac tgtgtttctt gtaacaggtg ctgttgctta tttaaagcca 780
gggtctgatg caccttctat tctagacttg ctggtgtctg tgttctattc tgtcgcacct 840
ccaaccttga accctgttat ctactgtctg aagaacaagg acattaaatc cgctctgagt 900

aaagtcctgt ggaatgttag aagcagtggg gtaatgaaaa ga 942

<210> 610
<211> 921
<212> DNA
<213> Unknown (H38g459 nucleotide)

<220>
<223> Synthetic construct

<400> 610
atgaatcaca gcgttgtaac tgagttcatt attctgggcc tcaccaaaaa gcctgaactc 60
cagggaatta tcttcctctt ttttctcatt gtctatcttg tggcttttct cggcaacatg 120
ctcatcatca ttgccaaaat ctataacaac accttgcata cgcccatgta tgttttcctt 180
ctgacactgg ctgttgtgga catcatctgc acaacaagca tcataccgaa gatgctgggg 240
accatgctaa catcagaaaa taccatttca tatgcaggct gcatgtccca gctcttcttg 300
ttcacatggt ctctgggagc tgagatggtt ctcttcacca ccatggccta tgaccgctat 360
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atgaggttga ctttctgtgg gccaaacacc attgaccact tcttctgtga gataccccca 540
ttgctggctt tgtcctgtag ccctgtaaga atcaatgagg tgatggtgta tgttgctgat 600
attaccctgg ccatagggga ctttattctt acctgcatct cctatggttt tatcattgtt 660
gctattctcc gtatccgcac agtagaaggc aagaggaagg ccttctcaac atgctcatct 720
catctcacag tggtgaccct ttactattct cctgtaatct acacctatat ccgccctgct 780
tccagctata catttgaaag agacaaggtg gtagctgcac tctatactct tgtgactccc 840
acattaaacc cgatggtgta cagcttccag aatagggaga tgcaggcagg aattaggaag 900
gtgtttgcat ttctgaaaca c 921

<210> 611
<211> 810
<212> DNA
<213> Unknown (H38g460 nucleotide)

<220>
<223> Synthetic construct

<400> 611
atggaagtga gtgggaacca cacctctgtg gccatgtttg ttctcctagg actctcagat 60
gaaaaagagc tgcagctcat cctctttcca gtcttcctgg tgatctacct tgtgaccctg 120
atttggaaca tgggtcttat catcctcatc agaatagact ctcatctgaa cacacccatg 180
tactttttc tcagtttcct ctcatttaca gacatctgct attcttctac catcagccca 240
aggatgcttt cagacttctt aaaagataag aagacaattt ccttccttgc ctgtgccact 300
cagtattttc ttggggcctg gatgagtctg gctgagtgct gcctcttggt catcatggcc 360
tgtgacagat atgtggccat tggcagcccc ctgcagtact cagcaatcat ggtccctagt 420
atctgttgga agatggtagc tggagtctgt gggggtggat tccttagtag cttagttcat 480
acagtccctt gctttaatct ctactactgt gggccaaata tcattcaaca tttcttctgt 540
aacacacttc agattatttc cttgtcttgc tccaacccct ttatcagcca aatgattctt 600
tttctggaag ctatttttgt tgggttgggc tctttgcttg ttatcctttt gtcttatggt 660
ttcattgtag cttccatact gaaaatatca tcaaccaaat gttgtgccaa ggccttcaat 720
acctgtgcct cccacctggc agctgtggct ctcttctatg gcacagccct ttctgtgtac 780
atgcatccta gctctagcca ctccatgaag 810

<210> 612
<211> 988
<212> DNA
<213> Unknown (H38g461 nucleotide)

<220>
<223> Synthetic construct

<400> 612

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gcaagtgctc tttttcatct ttctcatcat ttatgtcatc agcctctcag gcaacatcat     180
tctgaattct ctcatctgtg ctgattcttg gccctacaca cccatgtatt tcttcactgg     240
aaaccggttc cttctggatc tctggtattc ctctgtccac atccccgata tcctgctgac     300
ttgcatttct gatgacaaaa ccatctcctt tcctggctgc cttgctcagt tcttctctgc     360
tgtgttggcc taaaatgagt gctatatgat ggcttccatg gcttatgacc gctacatggc     420
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tgaggcttca caccttggcg gctttgtaaa ctcaaccatc atcaccagtg agacacctac     540
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aaagttggtg tgtgatgtga aggagcgcta ccaggctgtg ctgcatttta tgcttgcctc     660
caatcatcac tcccactgca cttattcttg cgtccatctc ttcatcattg cagccatctc     720
gaagatccgt tccattaagg gccgcctcca ggtcttctcc acttgtgggt ctcccctgac     780
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tgccttaaaa atggataaat tggggtcagt gttctatact gtggtgattc caatgctaaa     900
cccttgatc tatagcttaa gaaataagga tgtcaaagat gccttgaaga aaatgttaga     960
tagacttcag tttcttaaag aaaaatat                                        988
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<210> 613
<211> 1049
<212> DNA
<213> Unknown (H38g462 nucleotide)

<220>
<223> Synthetic construct

<400> 613

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gcccgtttcc cctggcttct ttgccctcat tctcctggtc tttgtgacct ccatagccag     120
caacgtggtc aagatcattc tcatccacat agactcccgc ctccacaccc ccatgtactt     180
cctgctcagc cagctctccc tcagggacat cttgtatatt tccaccattg tgcccaaaat     240
gctggtcgac caggtgatga gccagagagc catttccttt gcaggatgca ctgcccaaca     300
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tcgctacgta gccatctgca accctctgca ctatcctgac ctcatgagcc gcaagatctg     420
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cgtcaccacg cagttcccct tctgtgcctc tcgggagatc aaccacttct tctgcgaggt     540
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ctgctgtatt atgatgctcc tcatcccttt ctctgtgatc tcgggctctt acacaagaat     660
tctcattact gtttatagga tgagcgaggc agaggggagg cgaaaggctg tggccacctg     720
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gcctcattct taccacaccc ctgagcagga caaagctgta tctgccttct acaccatcct     840
cactcccatg ctcaatccac tcatttacag ccttaggaac aaggatgtca cgggggccct     900
acagaaggtt gttgggaggt gtgtgtcctc aggaaaggta accactttct aaacaaattg     960
catatgctgc tagagacttg aaatgaagga tacaagactt tatcattgcc cttgagttta    1020
aatattctct gcctggaaac aagtgaccc                                      1049
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<210> 614
<211> 957
<212> DNA
<213> Unknown (H38g463 nucleotide)

<220>
<223> Synthetic construct

<400> 614

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tccaatgagc actaccttct ttttgtggcc cttgccatta tctgtcaggt gttcttggtg     120
cgaagtggag acattctctt ggccattggg actgtgatta agttgcacac tactcatgta     180
ttattttttg gcaaatgtgt ccatcttaga catattgtgt tcatcagcta ctatacctaa     240
gatgcctaag attctctaga ctgaggatca cagcatttct tttgttaggt gagctttgca     300
gccctatttc ctagtggcct gggctgggaa gaaagctttc tcactgttac ggcttatgac     360
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tggtgtgtgg tcacatgttt ctccctttgt tacatcctga tcatgaacaa attggctctg 420
tccagctggt ttatgggacc tgagcagctg ggtttctaaa tttcctcctc ctccacgtag 480
tgtctaccct ctgcctgtct ttctgcaagc ctgatcgagt taaccagtat tactgtgata 540
tctcaccgat gggggccctg ttgtgccagt ccatgcacct ggcaaacatg cttgttttag 600
tggaatcagt tatcttgggg atcagtgctt ttctggctgc ctttaacttt tacatataca 660
tcatctccac tatcctaaag atccagtgtg tagagtggag tgcaaagtgc ttctctacat 720
gcacttccca cctccttacg gtctgtttgt tctatggcat attgacattt acctacattt 780
actccttctc cagtcaacac tcacatgtct aaggcaagcc cagatctagc cacagacagg 840
ctcatctcta tgctatacag agttattacc ctgatgttta acttcatcac tgacaacctg 900
agaaacacag aggtaaaagg agcctcagaa aggttttatg tcattgaaca tgtttat 957

<210> 615
<211> 840
<212> DNA
<213> Unknown (H38g464 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(840)
<223> n = A,T,C or G

<400> 615
atgtacctga ccacggtgct ggggaacctg ctcatcatgc tgctcatcca gctggactct 60
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tcatctgtca ctgtccctaa gatgctgatg gacatgcgga ctaagtacaa atcgatcctc 180
tatgaggaat gcatttctca gatgtatttt tttatatttt ttactgacct ggacagcttc 240
cttattacat caatggcata tgaccgatat gttgccatat gtcaccctct ccactacact 300
gtcatcatga gggaagagct ctgtgtcttc ttagtggctg tatcttggat tctgtcttgt 360
gccagctccc tctctcacac ccttctcctg acccggctgt ctttctgtgc tgcgaacacc 420
atcccccatg tcttctgtga ccttgctgcc ctgctcaagc tgtcctgctc agatatcttc 480
ctcaatgagc tggtcatgtt cacagtaggg gtggtggtca ttaccctgcc attcatgtgt 540
atcctggtat catatggcta cattggggcc accatcctga gggtcccttc aaccaaaggg 600
atccacaaag cattgtccac atgtggctcc catctctctg tggtgtctct ctattatggg 660
tcaatatttg gccagtacct tttcccgact gtaagcagtt ctattgacaa ggatgtcatt 720
gtggctctca tgtacacggt ggtcacaccc atgttgaacc cctttatcta cngcattngg 780
aacagggaca tgaaagaggc ccttgggaaa ctcttcagta gagcaacatt tttctcttgg 840

<210> 616
<211> 909
<212> DNA
<213> Unknown (H38g465 nucleotide)

<220>
<223> Synthetic construct

<400> 616
atgaattcat caagtgactg aagacaacca gtgatggacg gggtgaatga tagctccttg 60
cagggctttg ttctgatggg catatcagac catccccagc tggagatgat ctttttttata 120
gccatcctct tctcctattt gctgacccta cttgggaact caaccatcat cttgctttcc 180
cgcctggagg cccggctcca tacacccatg tacttcttcc tcagcaacct ctcctccttg 240
gaccttgctt tcgctactag ttcagtcccc caaatgctga tcaatttatg ggaccaggc 300
aagaccatca gctatggtgg ctgcataacc cagctctatg tcttcctttg gctgggggcc 360
accgagtgca tcctgctggt ggtgatggca tttgaccgct acgtggcagt gtgccggccc 420
ctccgctaca ccgccatcat gaaccccag ctctgctggc tgctggctgt gattgcctgc 480
ctgggtggct tgggcaactc tgtgatccag tcaacattca ctctgcagct cccattgtgt 540
gggcaccgga gggtggaggg attcctctgc gaggtgcctg ccatgatcaa actggcctgt 600
ggcgacacaa gtctcaacca ggctgtgctc aatggtgtct gcaccttctt cactgcagtc 660
ccactaagca tcatcgtgat ctcctactgc ctcattgctc aggcagtgct gaaaatccgc 720
tctgcagagg ggaggcgaaa ggcgttcaat acgtgcctct cccatctgct ggtggtgttc 780

ctcttctatg gctcagccag ctatgggtat ctgcttccgg ccaagaacag caaacaggac 840
cagggcaagt tcatttccct gttctactcg ttggtcacac ccatggtgaa tcccctcatc 900
tacacgctg 909

<210> 617
<211> 926
<212> DNA
<213> Unknown (H38g466 nucleotide)

<220>
<223> Synthetic construct

<400> 617
atgcagagga gcaatcacac agtgactgag ttcatcctgc tgggcttcac cacagatcca 60
gggatgcaac tgggcctctt tgtggtgttc ctgggtgtgt actgtctgac tgtggtagga 120
agtagcaccc tcatcgtgtt gatctgtaat gactcccacc tacacacacc catgtatttt 180
gtcattggaa atctgtcatt tctggatctc tggtattctt ctgtctacac cccaaagatc 240
ctagtgacct gcatctctga agacaaaagc atctcctttg ctggctgcct gtgtcagttc 300
ttctctgcca ggctggccta tagtgagtgc tacctactgg ctgccatggc ttatgaccac 360
tacgtggcca tctccaagcc cctgctttat gctcagacca tgccaaggag attgtgcatc 420
tgtttggttt tatattccta tactggggt tttgtcaatg caataatatt aaccagcaac 480
acattcacat tggatttttg tggtgacaat gtcattgatg actttttctg tgatgtccca 540
cccctcgtga agctggcatg cagtgtgaga gctaccaggc tgtgctgcac ttccttctgg 600
cctccaatgt catctcccct actgtgctca tccttgcctc ttacctctcc atcatcacca 660
ccatcctgag gatccactct acccagggcc gcatcaaagt cttctccaca tgctcctccc 720
acctgatctc cgttacctta tactatggct ccattctcta caactactcc cggccaagtt 780
ccagctactc cctcaagagg gacaaaatgg tttctacctt ttatactatg ctgttcccca 840
tgttgaatcc catgatctac agtctgagga ataaagacat gaaagacgct ctgaaaaaat 900
tcttcaagtc agcataatcc aaagtc 926

<210> 618
<211> 936
<212> DNA
<213> Unknown (H38g467 nucleotide)

<220>
<223> Synthetic construct

<400> 618
atggacgggg tgaatgatag ctccttgcag ggctttgttc tgatgagcat atcggaccat 60
ccccagctgg agatgatctt ttttatagcc atcctcttct cctatttgct gaccctactt 120
gggaactcaa ccatcatctt gctttcccgc ctggaggccc ggctccatac acccatgtac 180
ttcttcctca gcaacctctc ctccttggac cttgctttcg ctactagttc agtcccccaa 240
atgctgatca atttatgggg accaggcaag accatcagct atggtggctg cataacccag 300
ctctatgtct tcctttggct gggggccacc gagtgcatcc tgctggtggt gatggcattt 360
gaccgctacg tggcagtgtg ccggcccctc cgctacaccg ccatcatgaa cccccagctc 420
tgctggctgc tggctgtgat tgcctggctg ggtggcttgg gcaactctgt gatccagtca 480
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gtgcctgcca tgatcaaact ggcctgtggc gacacgagtc tcaaccaggc tgtgctcaat 600
ggtgtctgca ccttcttcac tgcagtccca ctaagcatca tcgtgatctc ctactgcctc 660
attgctcagg cagtgctgaa aatccactct gcagaggggа ggcgaaaggc gttcaatacg 720
tgcctctccc atctgctggt ggtgttcctc ttctatggct cagccagcta tgggtatctg 780
cttccggcca agaacagcaa acaggaccag ggcaagttca tttccctgtt ctactcgttg 840
gtcacaccca tggtgaatcc cctcatctac acgctgcgga acatggaagt gaagggcgca 900
ctgaggaggt tgctggggaa aggaagagaa gttggc 936

<210> 619
<211> 247
<212> DNA
<213> Unknown (H38g468 nucleotide)

<220>
<223> Synthetic construct

<400> 619
ggtgagaggc ttaagacact caacacatgt gtgtcacata tctatgcagt gctgatcttc 60
tatgtgccta tggttagtgt gtccatggtt catcgatttg ggaggcatgc tcctgaatat 120
gtgcacaagt tcatgtctct ttgtacctcc aatgctctac ccaattatct attccatcaa 180
gactaaggag attcgcagga gactacacaa gatgttattg ggagctaagt tctgatcaag 240
gaaaact 247

<210> 620
<211> 936
<212> DNA
<213> Unknown (H38g469 nucleotide)

<220>
<223> Synthetic construct

<400> 620
atggaagtgg gaaattgcac catcctgact gaattcatct tgttgggttt ctcagcagat 60
tcccagtggc agccgattct atttggagtg tttctgatgc tctatttgat aaccttgtca 120
ggaaacatga ccttggttat cttaatccga actgattccc acttgcatac acctatgtac 180
tttttcattg gcaatctgtc tttttggat ttctggtata cctctgtgta tacccccaaa 240
atcctggcca gttgtgtctc agaagataag cgcatttcct tggctggatg tggggctcag 300
ctgtttttt cctgtgttgt agcctacact gaatgctatc tcctggcagc catggcatat 360
gaccgccatg cagcaatttg taacccattg ctttattcag gtaccatgtc caccgccctc 420
tgtactgggc ttgttgctgg ctcctacata ggaggatttt tgaatgccat agcccatact 480
gccaatacat tccgcctgca tttttgtggt aaaaatatca ttgaccactt tttctgtgat 540
gcaccaccat tggtaaaaat gtcctgtaca aacaccaggg tctacgaaaa agtcctgctt 600
ggtgtggtgg gcttcacagt actctccagc attcttgcta tcctgatttc ctatgtcaac 660
atcctcctgg ctatcctgag aatccactca gcttcaggaa gacacaaggc attctccacc 720
tgtgcttccc acctcatctc agtcatgctc ttctatggat cattgttgtt tatgtattca 780
aggcctagtt ccacctactc cctagagagg gacaaagtag ctgctctgtt ctacaccgtg 840
atcaacccac tgctcaaccc tctcatctat agcctgagaa acaaagatat caaagaggcc 900
ttcaggaaag caacacagac tatacaacca caaaca 936

<210> 621
<211> 954
<212> DNA
<213> Unknown (H38g470 nucleotide)

<220>
<223> Synthetic construct

<400> 621
atgcctactg taaaccacag tggcactagc cacacagtct tccacttgct gggcatccct 60
ggcctacagg accagcacat gtggatttct atcccattct tcatttccta tgtcaccgcc 120
cttcttggga acagcctgct catcttcatt atcctcacaa agcgcagcct ccatgaaccc 180
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cctcaggcct tagctatctt ctggttccgt gctggggaca tctccctgga tcgttgcatc 300
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gcctttgacc actatattgc catatgctac ccactgaggt acaccaccat tcttacaaat 420
gctctgatca agaaaatttg tgtgactgtc tctctgagaa gttatggtac aattttccct 480
atcatatttc ttttaaaaag attgactttc tgccagaata atattattcc acacaccttt 540
tgtgaacaca ttggcctagc caaatatgca tgtaatgaca ttcgaataaa catttggtat 600
gggttttcca ttctaatgtc gacggtggtc ttagatgttg tactaatttt tatttcctat 660
atgctgattc tccatgctgt cttccacatg ccttctccag atgcttgcca caaagctctc 720
aacacatttg gctcccatgt ctgcatcatc atcctctttt atgggtctgg catcttcaca 780
atccttaccc agaggtttgg acgccacatt ccaccttgta tccacatccc gttggctaat 840
gtctgcattc tggctccacc tatgctgaat cccattattt atgggatcaa aaccaagcaa 900
atccaggaac aggtggttca gtttttgttt ataaaacaga aaataacttt ggtt 954

<210> 622
<211> 942
<212> DNA
<213> Unknown (H38g471 nucleotide)

<220>
<223> Synthetic construct

<400> 622
atggaggctg ccaatgagtc ttcagaggga atctcattcg ttttattggg actgacaaca 60
agtcctggac agcagcggcc tctctttgtg ctgttcttgc tcttgtatgt ggccagcctc 120
ctgggtaatg gactcattgt ggctgccatc caggccagtc cagcccttca tgcacccatg 180
tacttcctgc tggcccacct gtcctttgct gacctctgtt tcgcctccgt cactgtgccc 240
aagatgttgg ccaacttgtt ggcccatgac cactccatct cgctggctgg ctgcctgacc 300
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tatgactgct acgtggccat ccggcacccc ctcccctatg ccacgaggat gtcccgggcc 420
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atcctgctca tggctcgctt gtccttctgt gcttcccacc aagtgcccca cttcttctgt 540
gaccaccagc ctctcttaag gctctcgtgc tctgacaccc accacatcca gctgctcatc 600
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gccatcgcag ctgccgtgct ccagctgccc tcagcctctg ggaggctccg ggctgtgtcc 720
acctgtggct cccacctggc tgtggtgagc ctcttctatg ggacagtcat tgcagtctac 780
ttccaggcca catcccgacg cgaggcagag tggggccgtg tggccactgt catgtacact 840
gtagtcaccc ccatgctgaa ccccatcatc tacagcctct ggaatcgcga tgtacagggg 900
gcactccgag cccttctcat tgggcgaagg atctcagcta gt 942

<210> 623
<211> 946
<212> DNA
<213> Unknown (H38g472 nucleotide)

<220>
<223> Synthetic construct

<400> 623
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tttccaggcc tggaagcctc tcatcattgg gtttccatcc ccatcaacct cttctgtgtg 120
gtttccatcc tgggtaataa tatcatcctc ttcctgatcc acacagatcc agccttacat 180
gaacccatgt atatcttcct gtccatgttg gcagcctctg atctgggcct ctgtgcctct 240
accttcccca ctatggtgcg tctcttctgg ctgggagctc gtgagctgcc ctttgatctc 300
tgtgcagcac agatgttctt catccatacc ttcacctatg tggagtccgg tgtactgctg 360
gccatggcct tcgatcgctt tattgccatc cgggaccctc tgcattatgc cataatcatt 420
acctgctcag tcacagccga ggtgggaact gccattctgg tgagggctgt tctgctcaac 480
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tgctactgcc tgcactgtga ccttgtgggg ttggcctgct cagacaccca gatcaatagc 600
ctggttggcc tggtttccat cctcttctca ctgtgccttg actccttcct catcatgctt 660
tcatatgccc tgatcctatg aactgtgctg ggcattgcat cacctgggga gcggctcaag 720
gcactcaaca cgtgtgtctc acacctctgc attgttctca tcttttattt gcccaaacgg 780
gctgtctgtc ttgcaccgag taaagaagca tgactaccct gctctggcag tgctcatggc 840
caacctacac ttcttggtcc cacccttcat gaaccccatt gtgtattgca tcaagtctag 900
gcagatccgt cagagcctcc taaagcactt ccagcagaag aggatt 946

<210> 624
<211> 960
<212> DNA
<213> Unknown (H38g473 nucleotide)

<220>
<223> Synthetic construct

<400> 624
cacacagagc catggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcccgt cctcgctggg ttgtcccggt ccatgtatct ggtcatggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaacct gtgctgggct gacatcggtt tcacctcggc catggttccc 240
aagatgattg tggacatgca gtctcatagc agagtcatct cttatgcggg ctgcctgaca 300
cggatgtctt tcttggtcct ttttgcatgt atagaagaca tgctcctgac tgcgatggcc 360
tatgactgct ttgtagccat ctgtcgccct ctgcactacc cagtcatcgt gaatcctcac 420
ctctctgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
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gagccatctc agcttctcaa ccttgcctgt tctgacagcg tcatcaatag catattctta 600
tatttcgata gtactatgtt tggtttttctt cccatttcaa ggatcctttt gtcttactat 660
aaaattgtcc cctctattct aaggatttca tcgtcagatg ggaagtataa agccttctcc 720
acctgtggct ctcacctggc agttgtttgc ttattttatg gaacaggcat tggcgtgtac 780
ctgacttcag ctgtgtcacc accccccagg agtggtgtgg tggcgtcagt gatgtacgct 840
gtggtcaccc ccatgctgaa ccctttcatc tatagcctga gaaacagaga cattcaaagc 900
gccctctgga ggctgcgcag cagaacagtc gaatctcatg atctgttcca tccttttttct 960

<210> 625
<211> 985
<212> DNA
<213> Unknown (H38g474 nucleotide)

<220>
<223> Synthetic construct

<400> 625
atgaaactca taaaccatac catcagaacc caacctcctt tctgctcatg ggaattccag 60
gcccggaggc atcccacttt tggattgctt ttcccttctg ctccatgtat gccctggcag 120
tgctgggaaa catggtggtg ctgctagtgg tacattcaga gcctgtattg caccagccca 180
tgtacctgtt cctctgcatg ctatccacca ttgacctggt cctctgcacc tccactgtgc 240
ccaagctcct tgcacttttt tgggcaaagg atgctgagat caactttggg gcctgtgctg 300
cccagatgtt ctttatccat ggcttctcag ctgtagaatc tggtatactg ctagcaatgg 360
cctttgaccg ctacttagcc atttgctggc ctctgcacta tgggtcattg ctctccccag 420
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acacatggct gtggtaaagc tggcttgtgg aggaacacag ccaaacaaca tctatggcat 600
cactgctgcc acactggtgg tgggcactga ctccatctgt attgctgtct cctatgcact 660
catcctccga gctgtgttag gtctttcctc caaggaggca agggctaaga cctttggcac 720
ttgtggctcc cacctgggtg tcatacttct cttctacaca ccaggactct tctccttcta 780
cacacagcgg tttggccagc acgtgccccg gcacatccac atccttctag ctgacctcta 840
cctggttgtg ccacccatgc tcaaccccat catctatggc atgaagacca aacagatctg 900
ggatggggcc ctccggcttc tgaagtgggg ccctgctcag tcataaagtc ttcaacccca 960
ccctgaaacc tttatcttct ttgcc 985

<210> 626
<211> 989
<212> DNA
<213> Unknown (H38g475 nucleotide)

<220>
<223> Synthetic construct

<400> 626
cacacagagc cacggcatct cacaggtgtg tgagaattcc tcctcgtggg actctcagag 60
gatccagaac tgcagcctgt cctcggtggg gtgtccctgt ccatgtatgg ggtcacagtg 120
ataaggaacg tgctcatcat cctgggtgtg agctctgact cccacctcca cacccccatg 180
tttttttcct ctccaacgtg tggtgggctg acatcagttt cacgtcggcc ggggttccca 240
agatgacggt ggacatgcag tcgcatagca gagtcatcta ttatgcgggc tgcatgactc 300
ggatgtcttt tttcgtcctt ttagcatgta tagaagacat gctcgtgtgt gtgatggcat 360
aggagtgctt tgtagccatg tgtcgccctg tgcaatacac agttattgta aatcctcacc 420

tgtgtgtttt cagagttggg gtgtcctttc tccagagcgt gttgtattcc caggtgcaca 480
gatagagtgt gtcacaattc actttttttca agaatgtgga aatctctcat tttgtgtgtg 540
agccatctca atttctccac tttgcgtgtt gtgacagttt catcaagagc atattcatgt 600
atttcgatag taatatgttt ggtttcttc ccatcacagg gatcttttttg tcttaatata 660
aaagtgtccc ctccattata aggatttcat cgtcagatgg aaagtataaa gctttctcca 720
cgtgtggctc tcacgtggca gttgtttgct tattatatgg aacaggcatt ggggtgtaca 780
tgacttcagg tgtggcacca ccccccagca atggtgtggt ggcatcagtg aagtacgcgg 840
tggtcacccc catgctgacc cctttcatct acagcgtgag aaacagggac attcaaagcc 900
ccctgtggag tgtgtgcagc agcacagtta aatcttttga tgtgtcccat ctttttttgtg 960
tgtgggtaag aaagggcacc cacattaaa 989

<210> 627
<211> 512
<212> DNA
<213> Unknown (H38g476 nucleotide)

<220>
<223> Synthetic construct

<400> 627
cacacacagc cacggggtct cacacgtgtg tgagaattcc tcctcctggg actctcacag 60
gatccacaac tgcagctgtg ctctctgggc tgtccctgtg catgtgtctg ggcacacagc 120
tggggaacct gctgcatcat cctgggtgtg agctctgact cccacctcca cacccccatg 180
tactcttttc tctccaacct gtgctggggc tgacatcagt ttcacctcca ccacggggcc 240
caagttgatt gtggacatcc actcttacac cagagacatc tcctatgcac gctgtctgac 300
tcacacacct ctctttgcca tttttggagg cgtgggaaag agacatgctc ctgagagtga 360
tgggctatga ccgcgttgta gacatctgtg accctctata tcattcacac gccatgaacc 420
cctgtgtctg tggctctcta gatttgtggt ctcttttttt tctcacactt ttatacaccc 480
acctgcacaa ctcgattgcc ttacacatga cc 512

<210> 628
<211> 967
<212> DNA
<213> Unknown (H38g477 nucleotide)

<220>
<223> Synthetic construct

<400> 628
atgaatgaga caaatcattc ttgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttata ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac ccccatgtac 180
tttctgcttg ccaacctgtc atttatagac gtatgtgttg cctcttctgc taccccctaaa 240
atgattgcag actttctggt tgagcacaag actatttctt ttgatgcccg cctggcccag 300
attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctccc cactacatga caatcatgag ctgctgtgta 420
tgtgttgtgc tcttcctcat ttcctggttt gtgggcttca tccataccac cagccagttg 480
gcattcactg ttaatctgcc attttgtggt cctaataagg tagatagttt ttttctgtga 540
ccttcctcta gtgaccaagt tagcctgcat agacacttat gttgtcagcc tactaatagt 600
tgcagatagt ggctttcttt ctctgagttc ctttctcctc ttggttgtct cctacactgt 660
aatacttgtt acagttagga atagctcctc tgtaagcatg gtgaaggcct gctccacatt 720
gactgctcac atcactgtgg tcactttatt ctttggaccg tgtattttca tctatgtgtg 780
gcccttcagc agttactcag ttgacaaagt ccttgctgta ttctacacca tcttcacgtc 840
tattttaaac cctgtaatct acatgctaag aaacaaagaa gtgaaggcag ctatgtcaaa 900
actgaagagt cggtatcaga agcttggtca ggtttctgta gtcataagaa acgttctttt 960
cctagaa 967

<210> 629
<211> 942
<212> DNA
<213> Unknown (H38g478 nucleotide)

<220>
<223> Synthetic construct

<400> 629
atggaggggt ttaactattc cagagtatct gaattcatgt tacttggact tactgattct 60
cctgaactcc agatattctt ttttgtggtg ttttctgtct tctatttaat gaccatgttg 120
ggcaactgcc tgattttact cactgtccta tccacctcac accttcactc tcgcacgtac 180
ttcctgctca gcaacctgtc tcattgacat gtgcctgtcc tcctttgcca caccaaagat 240
gattatggac ttttttgctc tgcgtaagac catctctttt gaaggctgca tttctcagat 300
cttttttta cacctcttca atgggactga gattgtgctg ctgatctcca tgtcttttga 360
caggtatatt gccatatgta aacctctccg ctattcaaca attatgagcc aaagagtgtg 420
tgttgagctt gtggcagttt cttgttggac agtgggcttt ctacatacaa tgagccaatt 480
agtttttccc tctatttgcc cttctgtgtt cccaatgttg tagacagttt tttctgtgat 540
cttcctttgg tcatccagtt agcttgtata gatatttatg ttcttgggac ctccatgatt 600
tcaaccagtg gtgtgactgc tcttacaagt tttctgcttt tgctcacctc ctacatcatt 660
gttcttaata ctatcaggga ctactcctcc acaggatcct ccaaggctct ttctacctgt 720
acagcacatt ttattgttgt gttaatgttc tttgggccct gtattttcat ttatgtgtgg 780
ccttccacaa acttcctggt agacaaaatt ctctctgttt tctataccat cttcactccc 840
tttctgaatc cacttatcta tactttgaga aaccaggaag tgaagacagc aatgaagaag 900
aaactgaata ttcagtattt cagtcttggg aaaactgctc cg 942

<210> 630
<211> 595
<212> DNA
<213> Unknown (H38g479 nucleotide)

<220>
<223> Synthetic construct

<400> 630
atgaacccgt gtttgtgtgg ctttagagtt gtggtgtctt tttttttca cagtctttta 60
ggcgcacagg tgcacaactt gagcgcctca caaatgacgt gtttcgagta tgtggaaatt 120
cataatttct tgtgtgccct ttctcaactc cccatcgtg catggtgtga cactttcccc 180
aataacataa tcgtgtattt tcctgctgcc atatttggtt ttcttcccat cgcggggacc 240
ccttttctct taatatgaaa gtgtttcctc cattgagagg gtttcatcat aaggtggaga 300
gtataaggct ttccccacgt gtgggtctca cctctcagtc gtttgctgat tatatggcac 360
aggcgttgga gggcacctca gttcagatgt gtcatcttcc ccgagaaagt ctgcggtggc 420
ctcagtgatg tacactgtgg tcaccccat gctgaaccct ttcatctaca gcatgagaaa 480
cagggatact aaaagtgtcc tgcggcggcc gcacggcagc acggtgtaat tttgatatct 540
tcttatctgt cccattcctt ttgtagtgtg ggttaaaaaa ggcagaaagg tcaaa 595

<210> 631
<211> 942
<212> DNA
<213> Unknown (H38g480 nucleotide)

<220>
<223> Synthetic construct

<400> 631
atgctgggtc tcaatggcac cccttccag ccagcaacac tccagctgac aggcattcct 60
gggatacaaa caggcctcac ctgggttgcc ctgattttct gcatcctcta catgatctcc 120
attgtaggta acctcagcat tctcactctg gtgttttggg agcctgctct gcatcagccc 180
atgtactact tcctctctat gctcgctctc aatgatctgg gagtgtcctt ttctacactt 240
cccactgtga tttctacttt ctgcttcaac tacaaccatg ttgcgtttaa tgcttgcctg 300
gtccagatgt tcttcatcca cactttctcc ttcatggagt caggcatact gctggccatg 360
agcttggatc gctttgtggc tatttgttat ccattacgct atgtcactgt gctcactcac 420
aaccgtatat tggctatggg tctgggcatc cttaccaaga gtttcaccac tctcttccct 480
ttccctttg tggtgaaacg actgcccttc tgcaaaggca atgttttgca tcactcctac 540
tgtctccatc cagatctcat gaaagtagca tgtggagaca tccatgttaa caacatttat 600

gggctcttgg tgatcatttt tacctatggt atggactcaa ctttcatcct gctttcctac 660
gcattgatcc tgagagccat gctggtcatc atatcccagg aacagcggct caaggcactc 720
aacacctgca tgtcacacat ctgtgcagtg ctggcctttt atgtgcccat aattgctgtc 780
tccatgattc accgcttctg gaaaagtgct ccacctgttg ttcatgtcat gatgtccaat 840
gtctacctgt ttgtaccacc catgctcaac cctatcatct acagtgtgaa aaccaaggag 900
atccgcaaag ggattctcaa gttcttccat aaatcccagg cc 942

<210> 632
<211> 936
<212> DNA
<213> Unknown (H38g481 nucleotide)

<220>
<223> Synthetic construct

<400> 632
atggggttgt tcaatgtcac tcaccctgca ttcttcctcc tgactggtat ccctggtctg 60
gagagctctc actcctggct gtcagggccc ctctgcgtga tgtatgctgt ggcccttggg 120
ggaaatacag tgatcctgca ggctgtgcga gtggagccca gcctccatga gcccatgtac 180
tacttcctgt ccatgttgtc cttcagtgat gtggccatat ccatggccac actgcccact 240
gtactccgaa ccttctgcct caatgcccgc aacatcactt ttgatgcctg tctaattcag 300
atgtttctta ttcacttctt ctccatgatg gaatcaggta ttctgctggc catgagtttt 360
gaccgctatg tggccatttg tgaccccttg cgctatgcaa ctgtgctcac cactgaagtc 420
attgctgcaa tgggtttagg tgcagctgct cgaagcttca tcaccctttt ccctcttccc 480
tttcttatta agaggctgcc tatctgcaga tccaatgttc tttctcactc ctactgcctg 540
cacccagaca tgatgaggct tgcctgtgct gatatcagta tcaacagcat ctatggactc 600
tttgttcttg tatccacctt tggcatggac ctgtttttta tcttcctctc ctatgtgctc 660
attctgcgtt ctgtcatggc cactgcttcc cgtgaggaac gcctcaaagc tctcaacaca 720
tgtgtgtcac atatcctggc tgtacttgca ttttatgtgc caatgattgg ggtctccaca 780
gtgcaccgct ttgggaagca tgtcccatgc tacatacatg tcctcatgtc aaatgtgtac 840
ctatttgtgc ctcctgtgct caaccctctc atttatagcg ccaagacaaa ggaaatccgc 900
cgagccattt tccgcatgtt tcaccacatc aaaata 936

<210> 633
<211> 467
<212> DNA
<213> Unknown (H38g482 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(467)
<223> n = A,T,C or G

<400> 633
atggaaagca atcagacctg gatcacagaa gtcatcctgt tgggattcca ggtggaccca 60
gctctggagt tgttcctctt tgggtttttc ttgctattct acagcttaac cctgatggga 120
aatgggatta tcctggggct catctacttg gactctagac tgcacacacc catgtatgtc 180
ttcctgtcac acctggccat tgtggacatg tcctatgcct cgagtactgt ccctaagatg 240
ctagcaaatc ttgtgatgca caaaaaagtc atctcctttg ctccttgcat acttcagact 300
tttttgtatt tggcgtttgc tattacagag tgtctgattt tggtgatgat gtgctatgat 360
cggtatgtgg caatctgtca cccccttgca atacacccnt cattatgaac tggagagtgt 420
gcactgtcct ggcctcaact tgctggatat ttagctttct cttggct 467

<210> 634
<211> 988
<212> DNA
<213> Unknown (H38g483 nucleotide)

<220>

<223> Synthetic construct

<221> misc_feature
<222> (1)...(988)
<223> n = A,T,C or G

<400> 634
atggaatgca accagacatg gatcacagac atcaccctgc tgggattcca ggttggtcca 60
gcactggcga ttctcatctn gtgaactctt ctctgtcttc tatacactca ccctgctggg 120
gaatggggtc atctttggga ttatctgcct ggactctaag cttcacacac ccatgtactt 180
cttcctctca cacctggcca tcattgacat gtcctatgct tccaacaatg ttcccaagat 240
gttggcaaac ctaatgaacc agaaaagaac catctccttt gttccatgca taatgcagac 300
ttttttgtat ttggcttttg ctgttacaga gtgcctgatt ttggtggtga tgtcctatga 360
taggtatgtg gccatctgcc accctttcca gtacactgtc atcatgagct ggagagtgtg 420
cacgatcctg gttctcacgt cctggtcatg tgggtttgcc ctgtccctgg tacatgaaat 480
tctccttcta aggttgccct tctgtgggcc ccgggatgtg aaccacctct tctgtgaaat 540
tctatctgtc ctcaagctgg cctgtgctga cacctgggtt aaccaagtgg tcatatttgc 600
tacctgtgtg tttgtcttag tcgggcctct ttccttgatt ctggtctcct acatgcacat 660
cctcggggcc atcctgaaga tccagacaaa ggagggccgc ataaaggcct tctccacctg 720
ctcctcccac ctgtgtgtgg ttggactatt ctttggcata gccatggtgg tttacatggt 780
cccagactct aatcaacgag aggagcagga gaaaatgctg tccctgtttc acagtgtctt 840
gaacccaatg ctgaaccccc tgatctacag cctgaggaat gctcagttga agggcgccct 900
ccacagagca ctccagagga agaggtccat gagaacggtg tatgggcttt gcctttaaaa 960
catgtggttt gctgaagcaa gaattttg 988

<210> 635
<211> 941
<212> DNA
<213> Unknown (H38g484 nucleotide)

<220>
<223> Synthetic construct

<400> 635
atgggagtca accaatcatg gtcaccagaa ttcatcctgg tggaatccca gctcagtgcc 60
gagatggaag tgctcctctt ttagatcttc tccctgttat acatcttcag cctgctggca 120
aatggcatga tcttgggact catctgtctg gaccacattc tgcctacccc catgtacttc 180
ttcctctcac acctggccat cattgacatg tcctatgctt ccaacaatgt tcccaagatg 240
ttggcaaatc tgatgaacaa gaaaagaacc atctcctttc ttccatgcat aatgcagacc 300
tatttgtatt tctcttttgc tgctacagag tgtctgattt tggtggtgat gtcctatgat 360
aggtatgtgg ccatttgcca ccctctccag tacactgtca tcatgagctg gagagtgtgc 420
acgatcctgg ctctcacatc ctggtcatgt gggtttgccc tgtccctggt acatgcaatt 480
cttcttctaa ggttgccgtt ctgcgggccc cgggatgtga accacctctt ctgtgaaatt 540
ctgtctgtcc tcaagctggc ctgttctgac acctggggtt aaccacagtg gtcatatttg 600
ctacctgtgt gtttgtctta gttggacctc tttgtttgat gcttgtctcc tacatgcaca 660
tcctctggcc atcctaaaga tccagacaaa ggaagccgca taaaggcctt ctcgacctgc 720
tcctcccacc tgtgtgtggt tggactcttc ttgtggcata gccactggtg gtttacatag 780
tcccagactc taatcaacga gaggagcagg agaaaatgct gtccctgttt cacagtgtct 840
tgaacccaat tctgaacccc ctgatctaca gtctgaggaa tgctcaggtg aagggcgccc 900
tccacagagc actgcagagg acgctgtcta tgtaaggagt g 941

<210> 636
<211> 1002
<212> DNA
<213> Unknown (H38g485 nucleotide)

<220>
<223> Synthetic construct

<400> 636
atgtgttatc tttctcagct atgcctcagc cttggggaac acactttaca tatggggatg 60

```
gtgagacata ccaatgagag caacctagca ggtttcatcc ttttagggtt ttctgattat    120
cctcagttac agaaggttct atttgtgctc atattgattc tgtatttact aactattttg    180
gggaatacca ccatcattct ggtttctcgt ctggaaccca agcttcatat gccgatgtat    240
ttcttccttt ctcatctctc cttcctgtac cgctgcttca ccagcagtgt tattccccag    300
ctcctggtaa acctgtggga acccatgaaa actatcgcct atggtggctg tttggttcac    360
ctttacaact cccatgccct gggatccact gagtgcgtcc tcccggctgt gatgtcctgt    420
gaccgctatg tggctgtctg ccgtcctctc cattacactg tcttaatgca tatccatctc    480
tgcatggcct tggcatctat ggcatggctc agtggaatag ccaccaccct ggtacagtcc    540
accctcaccc tgcagctgcc cttctgtggg catcgccaag tggatcattt catctgcgag    600
gtccctgtgc tcatcaagct ggcttgtgtg ggcaccacgt ttaacgaggc tgagcttttt    660
gtggctagta tccttttcct tatagtgcct gtctcattca tcctggtctc ctctggctac    720
attgcccacg cagtgttgag gattaagtca gctaccagga gacagaaagc attcgggacc    780
tgcttctccc acctgacagt ggtcaccatc ttttatggaa ccatcatctt catgtatctg    840
cagccagcca agagtagatc cagggaccag ggcaagtttg tttctctctt ctacactgtg    900
gtaacccgca tgcttaaccc tcttatttat accttgagga tcaaggaggt gaaaggggca    960
ttaaagaaag ttctagcaaa ggctctggga gtaaatattt ta                      1002
```

<210> 637
<211> 510
<212> DNA
<213> Unknown (H38g486 nucleotide)

<220>
<223> Synthetic construct

<400> 637

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gcactggaga ttctcctctg tggacttttc tctgccttct atacactcac cctgctgggg    120
aatggggtca tctttgggat tatctgcctg gactgtaagc ttcacacacc catgtacttc    180
ttcctctcac acctggccat tgttgacata tcctatgctt ccaactatgt ccccaagatg    240
ctgacgaatc ttatgaacca ggaaagcacc atctcctttt ttccatgcat aatgcagaca    300
ttcttgtatt tggcttttgc tcacgtagag tgtctgattt tggtggtgat gtcctatgat    360
cgctatgcgg acatctgcca ccccttacgt tacaatatcc tcatgagctg gagagtgtgc    420
actgtcctgg ctgtggcttc ctgggtgttc agcttcctcc tggctctggt cccgtttagt    480
tctcagtcgc tgaggtgcat gaacgtactg                                      510
```

<210> 638
<211> 924
<212> DNA
<213> Unknown (H38g487 nucleotide)

<220>
<223> Synthetic construct

<400> 638

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atggacacag gcaacaaaac tctgccccag gactttctct tactgggctt tcctggttct     60
caaactcttc agctctctct ctttatgctt tttctggtga tgtacatcct cacagttagt    120
ggtaatgtgg ctatcttgat gttggtgagc acctcccatc agttgcatac cccatgtac     180
ttctttctga gcaacctctc cttcctggag atttggtata ccacagcagc agtgcccaaa    240
gcactggcca tcctactggg gagaagtcag accatatcat ttacaagctg tcttttgcag    300
atgtactttg ttttctcatt aggctgcaca gagtacttcc tcctggcagc catggcttat    360
gaccgctgtc ttgccatctg ctatccttta cactacggag ccatcatgag tagcctgctc    420
tcagcgcagc tggccctggg ctcctgggtg tgtggtttcg tggccattgc agtgcccaca    480
gccctcatca gtggcctgtc cttctgtggc ccccgtgcca tcaaccactt cttctgtgac    540
attgcaccct ggattgccct ggcctgcacc aacacacagg cagtagagct tgtggccttt    600
gtgattgctg ttgtggttat cctgagttca tgcctcatca cctttgtctc ctatgtgtac    660
atcatcagca ccatcctcag gatcccctct gccagtggcc ggagcaaagc cttctccacg    720
tgctcctcgc atctcaccgt ggtgctcatt tggtatgggt ccacagtttt ccttcacgtc    780
cgcacctcta tcaaagatgc cttggatctg atcaaagctg tccacgtcct gaacactgtg    840
gtgactccag ttttaaaccc cttcatctat acgcttcgta ataaggaagt aagagagact    900
ctgctgaaga aatggaaggg aaaa                                            924
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<210> 639
<211> 669
<212> DNA
<213> Unknown (H38g488 nucleotide)

<220>
<223> Synthetic construct

<400> 639
aaagaaatgg gatgtcacca atcaatggtc acagaattca tcctggtggg attccagctc 60
agtgctgaga tggaagtgct cctcttttgg agcttctccc ttggaatagc cttggaactc 120
atctgtctgg accacagtct gcacactctc atacttcttc ctctcacacc tggccgtcat 180
tgacatggcc tatgcttcca acaatgttcc caagatgctg gtggatcttg caaactagaa 240
aagcaccatg tgcttttttc catgcataat gcagacattc ttgtatttgg cttttgctca 300
catagagtgt ctgattttgg tggttttgtc ctatgatcgc tatgtggcca tctgccaccc 360
cttacgttac aatgtcctca tgagctggag agagtgcact gtcctggctg tggcttcctg 420
ggtgttcagc ttcctcctgg ctctggtcca tttagttctc attctgaggc tgcccttcag 480
tgggctcatg aaatcaacca ctactgtgaa atcctgtctg tcctcaagtt ggcctgtgct 540
gacacctggc tcaaccaggt ggtcatcttt gcaagctgca tgttcatcct ggtagggtga 600
ctctgcctgg tgctggtctc ttacttgggc atctggcggc atctgagatc agttgcgaag 660
ccaaaaagg 669

<210> 640
<211> 927
<212> DNA
<213> Unknown (H38g489 nucleotide)

<220>
<223> Synthetic construct

<400> 640
atgggattgg gcaatgagag ttccctaatg gatttcatcc ttctaggctt ctcagaccac 60
cctcgtctgg aggctgttct ctttgtattt gtccttttct tctacctcct gacccttgtg 120
ggaaacttca ccataatcat catctcatat ctggatcccc ctcttcatac ccaatgtac 180
ttttttctca gcaacctctc tttactggac atctgcttca ctactagcct tgctcctcag 240
accttagtta acttgcaaag accaaagaag acgatcactt acggtggttg tgtggcgcaa 300
ctctatattt ctctggcact gggctccact gaatgtatcc tcttggctga catggccttg 360
gatcggtaca ttgctgtctg caaacccctc cactatgtag tcatcatgaa cccacggctt 420
tgccaacagc tggcatctat ctcctggctc agtggtttgg ctagttccct aatccatgca 480
acttttacct tgcaattgcc tctctgtggc aaccataggc tggaccattt tatttgcgaa 540
gtaccagctc ttctcaagtt ggcttgtgtg gacaccactg tcaatgaatt ggtgcttttt 600
gttgttagtg ttctgtttgt tgtcattcca ccagcactca tctccatctc ctatggcttc 660
ataactcaag ctgtgctgag gatcaaatca gtagaggcaa ggcacaaagc cttcagcacc 720
tgctcctccc accttacagt ggtgattata ttctatggca ccataatcta cgtgtacctg 780
caacctagtg acagctatgc ccaggaccaa gggaagttta tctccctctt ctacaccatg 840
gtgacccccca ctttaaatcc tatcatctat actttaagga acaaggatat gaaagaggct 900
ctgaggaaac ttctctcggg aaaattg 927

<210> 641
<211> 1012
<212> DNA
<213> Unknown (H38g490 nucleotide)

<220>
<223> Synthetic construct

<400> 641
tctacagacc cacagaatct aacagatgtc tctgtattcc tcctcctaga actacagagg 60
atccagaacg gcagccggtc ctcactgggc tgttcctgtc catgtgcctg gtcatggtgc 120
tggggaacct gctcatcatc ctggccatca gccctgactc ccacctccac atccccatgt 180

acttcttcct ctccaacctg tccttgcctg acatcggttt cacctccacc acggtcccca 240
agatgattgt ggacatccag tctcacagca gagtcatctc ctatgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg 360
gcctatgacc ggtttgtagc catctgtcac cctctatatc attcagccat catgaacccg 420
tgtttctgtg gcttcctagt tttgttgtct tttttttct gtcctcagtc ttttagactc 480
ccagctgcac aacttgattg ccttacaagt gacctgcttc aaggatgtgg aaattcctaa 540
tttcttctgt gacccttctc aactccccca tcttgcatgt tgtgacacct tcaccaataa 600
gataatcatg tatttccctg ctgccatatt tggttttctt cccatctcag ggaccctttt 660
ctcttactct aaaattgttt cctccattct gagggtttca tcatcaggtg ggaagtataa 720
agccttctcc acctgtgggt ctcacctgtc agttgtttgc tgagtttatg gaacaggcgt 780
tggaggttac ctcagttcag atgatgtgtc atcttccccc agaaagggtg cagtggcctc 840
agtgatgtac acggtggtca cccccatgcc gaaccccttc atctacagcc tgagaaacag 900
ggatattaaa agtgtcctgc ggcggccgca cggcagcaca gtctaatctc aatatcttct 960
tatctgttcc attccttttg tagtgtgggt taaaaaaggc agaaaggtca aa 1012

<210> 642
<211> 879
<212> DNA
<213> Unknown (H38g491 nucleotide)

<220>
<223> Synthetic construct

<400> 642
atgggatttt cgaattcctg ggatattcag attgtacatg ctgctctatt cttcctagtt 60
tacctggcag ctgtcatagg aaatctccta atcatcatac ttaccactct ggatgttcac 120
ctccaaaccc caatgtattt ctttttgaga aacttgtctt tcttagattt ttgttacatc 180
tctgtcacaa ttccaaaatc tattgttagt tccttgactc atgatacttc catttctttc 240
tttgggtgtg ctctgcaagc cttctttttc atggacttgg caactacgga ggtagccatc 300
cttacagtga tgtcctatga ccgctatatg gccatctgcc ggcctttaca ttatgaggtc 360
atcataaacc aaggtgtctg tctgaggatg atggccatgt cgtggctcag tggggtgatc 420
tgtggattca tgcatgtgat agcaacattc tcattaccat tctgtgggcg caatagaata 480
cgtcaatttt tctgtaatat tccacagctc ctaagcctct tagaccccaa agtaattacc 540
attgagattg gagtcatggt tttggtaca agtcttgtga taatctcctt tgttgtaatt 600
actctctcct acatgtacat tttttctgtc atcatgagga ttccttctaa ggagggtaga 660
tcaaaaacat tttctacctg cattccacat cttgtggttg taacactctt tatgatatct 720
ggcagcattg cctatgtgaa gccaatttca aattctcccc ccgttctgga tgttttcctg 780
tctgcgttct acacagtcgt gcccccgacc ctgaaccccg tcatctatag tctgaggaat 840
agggacatga aggcagccct gagaaggcag tgtggtccc 879

<210> 643
<211> 1020
<212> DNA
<213> Unknown (H38g492 nucleotide)

<220>
<223> Synthetic construct

<400> 643
atgatgggcc atcagaatca cactttcagc agtgatttca tacttttggg attgttctct 60
tcttccccaa caagtgtggt cttcttctta gacaatttgt cattttcatt atgagtgtaa 120
cagaaaatac gctcatgatc ctcctcattc gcagtgactc ccgactccac actccaatgt 180
attttctgct cagccatctc tccttaatgg atatcttgca tgtttccaac atcgttccca 240
aaatggtcac taactttctg tcaggcagca gaactatttc atttgcaggt tgtgggttcc 300
aggtatttct gtccctcacc ctcctgggtg gtgagtgcct tctcctggct gcaatgtcct 360
gtgatcgcta tgtggctatc tgtcacccgc tgcgctatcc gattcttatg aaggagtatg 420
ccagcgctct catggctgga ggctcctggc tcattggggt tttcaactcc acagtccaca 480
cagcttatgc actgcagttt cccttctgtg gctctagggc aattgatcac ttcttctgtg 540
aagtccctgc catgttgaag ttgtcctgtg cagacacaac acgctatgaa cgaggggttt 600
gtgtaagtgc tgtgatcttc ctgctgatcc ctttctcctt gatctctgct tcttatggcc 660
aaattattct tactgtcctc cagatgaaat catcagaggc aaggaaaaag tcattttcca 720

cttgttcctt ccacatgatt gtggtcacga tgtactatgg gccatttatt tttacatata 780
tgagacctaa atcataccac actccaggcc aggataagtt cctggcaata ttctatacga 840
tcctcacacc cacactcaac cctttcatct acagctttag gaataaagat gttctggcgg 900
tgatgaaaaa tatgctcaaa agtaactttc tgcacaaaaa aatgaatagg aaaattcctg 960
aatgtgtgtt ctgtctattt ctatgttaaa tgcctgaagg atactcatga gaggtttcct 1020

<210> 644
<211> 932
<212> DNA
<213> Unknown (H38g493 nucleotide)

<220>
<223> Synthetic construct

<400> 644
atgaagtggg caaaccagac agctgtgacg gaatacgtcc tgatggggct acacgagcac 60
tgtaacctgg aggtggtcct gtttgtgttc tgcctgggca tctactccgt gaatgtgttg 120
gggaacgccc tcctcatagg gctgaacgtg ctgcaccctc gcctgcacaa ccccatgtac 180
ttctcagcaa cctctccctc atggacatct gcggcacctc ctcctttgtg cctctcatgc 240
tagacaattt cctggaaacc cagaggacca tttccttccc tggctgtgcc ctgcagatgt 300
acctgaccct ggcgctggga tcaacggagt gcctgctgct ggctgtgatg gcatatgacc 360
gttatgtggc tatctgccag ccgcttaggt acccagagct catgagtggg cagacctgca 420
tgcagatggc agcgctgagc tgggggacag gctttgccaa ctcactgcta cagtccatcc 480
ttgtctggca cctccccttc tgtggccacg tcatcaacta cttctatgag atcttggcag 540
tgctaaaact ggcctgtggg gacatctccc tcaatgcgct ggcattaatg gtggccacag 600
ccgtcctgac actggccccc ctcttgctca tctgcctgtc ttaccttttc atcctgtctg 660
ccatccttag ggtaccctct gctgcaggcc ggtgcaaagc cttctccacc tgctcagccc 720
accgcacagt ggtggtggtt ttttatggga caatctcctt catgtacttc aaacccaagg 780
ccaaggatcc caacgtggat aagactgtcg cattgttcta cggggttgtg acgccctcgc 840
tgaaccccat catttacagc ctgaggaatg cagaggtgaa agctgccgtc ctaactctgc 900
tgagaggagg tttgctctcc aggaaagcat cc 932

<210> 645
<211> 957
<212> DNA
<213> Unknown (H38g494 nucleotide)

<220>
<223> Synthetic construct

<400> 645
atgatggaaa tagccaatgt gagttctcca gaagtctttg tcctcctggg cttctccaca 60
cgaccctcac tagaaactgt cctcttcata gttgtcttga gtttttacat ggtatcgatc 120
ttgggcaatg gcatcatcat tctggtctcc catacagatg tgcacctcca cacacctatg 180
tacttctttc ttgccaacct ccccttcctg gacatgagct tcaccacgag cattgtccca 240
cagctcctgg ctaacctctg ggaccacag aaaaccataa gctatggagg gtgtgtggtc 300
cagttctata tctcccattg gctgggggca accgagtgtg tcctgctggc caccatgtcc 360
tatgaccgct acgctgccat ctgcaggcca ctccattaca ctgtcattat gcatccacag 420
ctttgccttg ggctagcttt ggcctcctgg ctgggggtc tgaccaccag catggtgggc 480
tccacgctca ccatgctcct accgctgtgt gggaacaatt gcatcgacca cttcttttgc 540
gagatgcccc tcattatgca actggcttgt gtggatacca gcctcaatga gatggagatg 600
tacctggcca gctttgtctt tgttgtcctg cctctggggc tcatcctggt ctcttacggc 660
cacattgccc gggccgtgtt gaagatcagg tcagcagaag ggcggagaaa ggcattcaac 720
acctgttctt cccacgtggc tgtggtgtct ctgttttacg ggagcatcat cttcatgtat 780
ctccagccag ccaagagcac ctcccatgag cagggcaagt tcatagctct gttctacacc 840
gtagtcactc ctgcgctgaa cccacttatt tacaccctga ggaacacgga ggtgaagagc 900
gccctccggc acatggtatt agagaactgc tgtggctctg caggcaagct ggcgcaa 957

<210> 646
<211> 792
<212> DNA

<213> Unknown (H38g495 nucleotide)

<220>
<223> Synthetic construct

<400> 646
atgatggttc tgagtatcgt tttgacctcc ctgtttggca attccctcat gattctcctg 60
attcactggg accaccggtt ccacacgccc atgtacttcc tcctgagcca actttccctc 120
atggacgtga tgctggtttc caccactgtg cccaaaatgg cggctgacta cttgaccgga 180
agtaaggcca tctcccgcgc tggctgtggt gcgcagatct tcttcctccc cacactgggt 240
ggtggagagt gcttcctctt agcagccatg gcctatgacc gctatgcggc tgtctgccac 300
ccactccgat atcccactct catgagctgg cagctgtgcc tgaggatgaa cctgtcgtgt 360
tggctcctgg gtgcagctga cgggctcctg caggctgttg ctaccctgag cttcccatat 420
tgcggtgcac acgagatcga tcacttcttc tgcgagaccc ccgtgctggt gcgtttggct 480
tgtgctgaca cttcagtctt cgaaaacgcc atgtacatct gctgtgtgtt aatgctcctg 540
gtcccctttt ccctcatcct gtcctcctat ggtctcatcc tcgctgctgt tctgcacatg 600
cgctctacag aagcccgcaa gaaggccttt gccacctgct cttcacatgt ggctgtggtg 660
ggactctttt atggagctgc cattttacc tatatgagac ccaaatccca caggtccact 720
aaccacgaca aggttgtgtc agccttctat actatgttca cccctttact aaaccccctc 780
atctacagtg tg 792

<210> 647
<211> 662
<212> DNA
<213> Unknown (H38g496 nucleotide)

<220>
<223> Synthetic construct

<400> 647
aatctgtctt tcttagatct ctgctttaca gcaagcattg cccctcagct gctgtggaac 60
ctgggggtc cagagaagac catcacctac cacggctgtg tggcccaact ctacatctac 120
atgatgctgg gctccaccga gtgcgtcctc ctggttgtca tgtcccatga ccgctatgtg 180
gccgtctgcc ggtccctgca ctacatggca gtcatgcgcc cacatctctg cctgcagctg 240
gtgactgtgg cctggtgctg tggcttccta aactccttca tcatgtgtcc tcagacgatg 300
cagctctccc ggtgtggacg tcgcagggtg gaccacttcc tgtgtgagat gcctgctctt 360
attgccatgt cttgtgagga aaccatgctg gtagaagcga ttcacctttg ccctgggggt 420
ggctctcctc ctggtgccgc tctccctcat cctcatctcc tacggcgtga ttgcagccgc 480
ggtgctgagg atgaagtcag cagcagggcg aaagaaagcc ttccacacct gctcttctca 540
cctcacagtg gtctctctct tctacggaac catcatctac ggtgtacctg aagccggcca 600
acagctactc ccaagatcag gggaagttcc tgactctctt ctacaccatc gtcattccca 660
gc 662

<210> 648
<211> 936
<212> DNA
<213> Unknown (H38g497 nucleotide)

<220>
<223> Synthetic construct

<400> 648
atggagccgc tcaacagaac agaggtgtcc gagttctttc tgaaaggatt ttctggctac 60
ccagccctgg agcatctgct cttccctctg tgctcagcca tgtacctggt gaccctcctg 120
gggaacacag ccatcatggc ggtgagcgtg ctagatatcc acctgcacac gcccgtgtac 180
ttcttcctgg gcaacctctc taccctggac atctgctaca cgcccacctt tgtgcctctg 240
atgctggtcc acctcctgtc atcccggaag accatctcct ttgctgtctg tgccatccag 300
atgtgtctga gcctgtccac gggctccacg gagtgcctgc tactggccat cacggcctat 360
gaccgctacc tggccatctg ccagccactc aggtaccacg tgctcatgag ccaccggctc 420
tgcgtgctgc tgatgggagc tgcctgggtc ctctgcctcc tcaagtcggt gactgagatg 480
gtcatctcca tgaggctgcc cttctgtggc caccacgtgg tcagtcactt cacctgcaag 540

atcctggcag tgctgaagct ggcatgcggc aacacgtcgg tcagcgaaga cttcctgctg 600
gcgggctcca tcctgctgct gcctgtaccc ctggcattca tctgcctgtc ctacttgctc 660
atcctggcca ccatcctgag ggtgccctcg gccgccaggt gctgcaaagc cttctccacc 720
tgcttggcac acctggctgt agtgctgctt ttctacggca ccatcatctt catgtacttg 780
aagcccaaga gtaaggaagc ccacatctct gatgaggtct tcacagtcct ctatgccatg 840
gtcacgacca tgctgaaccc caccatctac agcctgagga acaaggaggt gaaggaggcc 900
gccaggaagg tgtggggcag gagtcgggcc tccagg 936

<210> 649
<211> 940
<212> DNA
<213> Unknown (H38g498 nucleotide)

<220>
<223> Synthetic construct

<400> 649
atggaaaggg gaaattggac attggtgact gagtttattc ttgtggggat accaaccacc 60
agagcccttg gggcctcct ctttgtgatt ttttatcagc ctatttggtg acagtccttg 120
gaaacaccct tattattatc ctgattcttg tggattacag gctccactca cccatgtatt 180
tcttcctcag caatctctct ttcagtgaaa cattaaccat aacctgtgct gttcctaaga 240
tgctggaggg cttcccgtcg gaaaggaaga gcatcacaag tggcgaatgc tctgcacagt 300
cctatttcta ttttctttcc ggatgcactg agtttattcc ttttgctgtc atgtcctatg 360
accgctatgt ggccatttgc agtcctcttc agtaccctgc aattatgacc agctcactct 420
gtgcccacct cgtcatcctc tcctgggtgg gtggctttct cctcatgctc ccatccacca 480
tcctcaaggc aggactgcca cactgtggtc ccaacgtgat tgagcacttt ttctgtgaca 540
gcgcccctct cctccacctg gcctgtgctg acattcgtgc tattgagctg ttggactttc 600
tcagctcact ggtcctgatc ctcagctccc tctcactcac agtggtctcc tatgtttaca 660
tcatctccac cattctgaag ataccctcag gccaaggtca acgcaaagcc tttgccacct 720
gtgcctctca cttcacggtg gtctccgtgg gctatgggat ctccatcttt gtctatgttc 780
acccctcaca gaagagcagc ctgcacctca acaagatcct ctttatcctc tccagcatca 840
tcacacccct cctgaatccc ttcgtcttca gtctgtggaa tgaacccatg aaagatgcac 900
tgaaggacgc ctcggccgga ggacagagct tgctcaaagg 940

<210> 650
<211> 927
<212> DNA
<213> Unknown (H38g499 nucleotide)

<220>
<223> Synthetic construct

<400> 650
atggcaaatc tcacaatcgt gactgaattt atccttatgg ggttttctac caataaaaat 60
atgtgcattt tgcattcgat tctcttcttg ttgatttatt tgtgtgccct gatggggaat 120
gtcctcatta tcatgatcac aactttggac catcatctcc acaccccgt gtatttcttc 180
ttgaagaatc tatctttctt ggatctctgc cttatttcag tcacggctcc caaatctatc 240
gccaattctt tgatacacaa caactccatt tcattccttg gctgtgtttc ccaggtcttt 300
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caaagagcca ctgtgtcttg gctgtatggg ggtctgattg ctgtgatgca cacagctggc 480
accttctcct tatcctactg tgggtccaac atggtccatc agttcttctg tgacattccc 540
cagttattag ctatttcttg ctcagaaaat ttaataagag aaattgcact catccttatt 600
aatgtagttt tggatttctg ctgttttatt gtcatcatca ttacctatgt ccacgtcttc 660
tctacagtca agaagatccc ttccacagaa ggccagtcaa aagcctactc tatttgcctt 720
ccacacttgc tggttgtgtt atttctttcc actggattca ttgcttatct gaagccagct 780
tcagagtctc cttctatttt ggatgctgta atttctgtgt tctacactat gctgccccca 840
acctttaatc ccattatata cagtttgaga aacaaggcca taaaggtggc tctggggatg 900
ttgataaagg gaaagctcac caaaaag 927

<210> 651

<211> 942
<212> DNA
<213> Unknown (H38g500 nucleotide)

<220>
<223> Synthetic construct

<400> 651
atgggggatg tgaatcagtc ggtggcctca gacttcattc tggtggcct cttcagtcac 60
tcaggatcac gccagctcct cttctccctg gtggctgtca tgtttgtcat aggccttctg 120
ggcaacaccg ttcttctctt cttgatccgt gtggactccc ggctccacac acccatgtac 180
ttcctgctca gccagctctc cctgtttgac attggctgtc ccatggtcac catccccaag 240
atggcatcag actttctgcg ggagaaggt gccacctcct atggaggtgg tgcagctcaa 300
atattcttcc tcacactgat gggtgtggct gagggcgtcc tgttggtcct catgtcttat 360
gaccgttatg ttgctgtgtg ccagcccctg cagtatcctg tacttatgag acgccaggta 420
tgtctgctga tgatgggctc ctcctgggtg gtaggtgtgc tcaacgcctc catccagacc 480
tccatcaccc tgcattttcc ctactgtgcc tcccgtattg tggatcactt cttctgtgag 540
gtgccagccc tactgaagct ctcctgtgca gatacctgtg cctacgagat ggcgctgtcc 600
acctcagggg tgctgatcct aatgctccct ctttccctca tcgccacctc ctacggccac 660
gtgttgcagg ctgttctaag catgcgctca gaggaggcca gacacaaggc tgtcaccacc 720
tgctcctcgc acatcacggt agtggggctc ttttatggtg ccgccgtgtt catgtacatg 780
gtgccttgcg cctaccacag tccacagcag gataacgtgg tttccctctt ctatagcctt 840
gtcaccccta cactcaaccc ccttatctac agtctgagga atccggaggt gtggatggct 900
ttggtcaaag tgcttagcag agctggactc aggcaaatgt gc 942

<210> 652
<211> 936
<212> DNA
<213> Unknown (H38g501 nucleotide)

<220>
<223> Synthetic construct

<400> 652
atggatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga 60
tgggaacttc aaatttcttt ctttgtgaca ttttccctga tctacggtgc tactgtgatg 120
ggaaacattc tcattatggt cacagtgaca tgtaggtcaa cccttcattc tcccttgtac 180
tttctccttg gaaatctctc ttttttggac atgtgtctct ccactgccac aacacccaag 240
atgatcatag atttgctcac tgaccacaag accatctctg tgtggggctg cgtgacccag 300
atgttcttca tgcacttctt tggggtgct gagatgactc ttctgataat catggccttt 360
gacaggtatg tagccatatg taaacccctg cactatagga caatcatgag ccacaagctg 420
ctaaaggggt ttgcgatact ttcatggata attggttttt tacactccat aagccagata 480
gttttaacaa tgaacttgcc tttctgtggc cacaatgtca taaacaacat attttgtgat 540
cttcccctttg tgatcaagct tgcttgcatt gaaacataca ccctggaatt atttgtcatt 600
gctgacagcg ggctgctctc tttcacctgt ttcatcctct tgcttgtttc ttacattgtc 660
atcctggtca gtgtaccaaa aaaatcatca catgggctct ccaaggcgct gtccacattg 720
tctgcccaca tcattgtggt cactctgttc tttggacctt gtatttttat ctatgtttgg 780
ccattcagta gtttggcaag caataaaact cttgccgtat tttatacagt tatcacaccc 840
ttactgaatc cgagtattta taccctgaga aataagaaaa tgcaagaggc cataagaaaa 900
ttacggttcc aatatgttag ttctgcacag aatttc 936

<210> 653
<211> 972
<212> DNA
<213> Unknown (H38g502 nucleotide)

<220>
<223> Synthetic construct

<400> 653
atgccaacag acaaacaaat ggaaaaacaa aatcagtcca tggtgcctga atttattttg 60

ttgggattca aaaatctcat gagctacaga ttttctttat cttatttttc cattctctac 120
atatccataa ttaagtaacc taatcattat ctttgtagtg aaactggatc ctcaattgca 180
ttctcccatg tacttcctac tggccaacct gtcatctact gatatgcccc tggcctcctt 240
tgctactcct aagaaaatcg ataatgtaat tagtgaatat aggaccatct cctatgaagg 300
ctgcatgaca tagagatttt tccttcactt tttaagtgga agtgagatgg ttttactctt 360
agccatggca atcgatagat aatttgccat atgcaaaccc ctccattaca agtccattgc 420
atcggacttg ctcctcgctc ctggactatg gatttcatgc acaccatgag ccaaattgtt 480
ctcacagtga ctttgccatt ctgtggtctc agtgttgtgg atatttttgt gtgtgtgtga 540
tctgccttgt gataaaactt gcctgtacag acacttacat cttggagcta tgagtcattg 600
cagacagtgg actactttct ttgctgtgtt tcatgtttct gttaatctcc tatagcaccg 660
tcctgattat tatttgacat cattcctcca gggggtcttc caaaactctg tccacgcttt 720
cagcccacat tatggtggtg gtactgttct ttggagcttg catctttacc tgtgaaagac 780
cattcagcac tgtctccatt gatgtctgtg ttttaaacta tttttgctcc cctttttaaat 840
ccaatcatct acacattcag gaataacgac atgaagaaag cattaagaaa aatgaagatt 900
aactttgtga gttctagatc aacttgataa ctaaaatatt ataatcacta aaagcatcat 960
cattattgtt gt 972

<210> 654
<211> 936
<212> DNA
<213> Unknown (H38g503 nucleotide)

<220>
<223> Synthetic construct

<400> 654
atggatgaag ccaatcactc tgtggtctct gagtttgtgt tcctgggact ctctgactcg 60
cggaagatcc agctcctcct cttcctcttt ttctcagtgt tctatgtgtc aagcctgatg 120
ggaaatctcc tcattgtgct aactgtgacc tctgaccctc gtttacagtc ccccatgtac 180
ttcctgctgg ccaacctttc catcatcaat ttggtatttt gttcctccac agctcccaag 240
atgatttatg accttttcag gaagcacaag accatctctt ttgggggctg tgtagttcag 300
atcttcttta tccatgcagt tggggggaact gagatggtgc tgctcatagc catggctttt 360
gaccgatatg tggccatatg taagcctctc cactacctga ccatcatgaa cccacaaagg 420
tgcattttgt ttttagtcat ttcctggatt ataggtatta ttcactcagt gattcagttg 480
gcttttgttg tagacctgct gttctgtggc cctaatgaat tagatagttt cttttgtgat 540
cttcctcgat ttatcaaact ggcttgcata gagacctaca cattgggatt catggttact 600
gccaatagtg gatttatttc tctggcttct tttttaattc tcataatctc ttacatcttt 660
atttggtga ctgttcagaa aaaatcttca ggtggtatat tcaaggcttt ctctatgctg 720
tcagctcatg tcattgtggt ggttttggtc tttgggccat taatcttttt ctatattttt 780
ccatttccca catcacatct tgataaattc cttgccatct ttgatgcagt tatcactccc 840
gttttgaatc cagtcatcta tacttttaga aataaagaga tgatggtggc aatgagaaga 900
cgatgctctc agtttgtgaa ttacagtaaa atcttt 936

<210> 655
<211> 967
<212> DNA
<213> Unknown (H38g504 nucleotide)

<220>
<223> Synthetic construct

<400> 655
atgaataggg acaaccagtc tgtggtgtct gaattcgtgt tgctgggact ctcaaattct 60
tgggagactc aagatttttc ttttttgctt ttcttgtctt ttctatgtgt ccggtgtgat 120
ggcaaacctc attgtagtgg tcattgtaac ctctgaccct tacttgcact cctccttgta 180
tattttgctg gccaacctct ctgtcattga tctcacattt tgctccattg cagcacgcaa 240
gatgatttgt gatattttca ggaaacagaa agtcatttcc ttttggggct gtgtagctca 300
gatcttcttt agccatgctg ttgggggcac tgagatggtg ctgctcatag ccatggcctt 360
tgacagatat gttgccgtat gtaagcccct tcactacctg accatcatgc atccaagaat 420
gtgcattttg attctagtgg cttcctgggc cattggtctc attcactcat tggtccaatt 480
gtcttttgta gtaaacttgc ccttctgtgg ccctaatgtg ttggacagct tttactgtga 540

```
catacctcag ctcatcaaac ttgcttgcac aaatacctat aaactgcagt tcatggttac      600
tgctaatagt gggttcattt ccttgagtgc tttcttcttg ctcatcctct cttacatctt      660
cattctggcc actcttcaga aacactcctc aggaggctca tccaaggctg tctctactct      720
gtcagctcat attactgttg tggttttatt ctttggtcca ctgatttttt tctatgtatg      780
gccctctcct ccaacacatc tgaataaatt tctagccata tttgatgcca ttttcactcc      840
ttttctgaat ccagtcatct acacattcag gaacagggaa atgaagattg caataaggag      900
agtgttcggt caatttatgg gttttagaaa aactacttaa gtggctttat taaaacacag      960
aatttcc                                                                 967
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<210> 656
<211> 873
<212> DNA
<213> Unknown (H38g505 nucleotide)

<220>
<223> Synthetic construct

<400> 656
atggttgggg caaatcactc cgtggtgtca gagtttgtgt tcctgggact caccaattcc       60
tgggagatcc gacttctcct ccttgtgttc tcctccatgt tttacatggc cagtatgatg      120
ggaaactctc tcattttgct cactgtgact tctgaccctc acttgcactc ccccatgtat      180
tttctgttag ccaacctctc cttcattgac ctgggtgttt cctctgtcac ttctcccaaa      240
atgatttatg acctgttcag aaagcacgaa gtcatctcct ttggaggctg catcgctcaa      300
atcttcttca tccacgtcat tggcggtgtg gagatggtgc tgctcatagc catggccttt      360
gacagatatg tggccatatg taagcccctc cagtacctga ccattatgag cccaagaatg      420
tgcatgttct tcttagtggc tgcctgggtg accggcctta tccactctgt agttcaattg      480
gtttttgtag taaacttgcc cttctgtggt cctaatgtat cggacagctt ttactgtgac      540
cttcctcggt tcatcaaact tgcctgcaca gacagctacc gactggagtt catggttaca      600
gccaacagtg gattcatctc tctgggctcc ttcttcatac tgatcatttc ctatgtggtc      660
atcattctca ctgttctgaa acactcttca gctggtttat ccaaggctct gtccaccctt      720
tcagctcacg tcagtgtggt agttttgttc tttggtcctt tgatttttgt ctatacgtgg      780
ccatctccct ccacacacct ggataagttt ctggccatct ttgatgcagt tctcactcct      840
gttttaaatc ctatcatcta cacattcagg aat                                   873
```

```
<210> 657
<211> 936
<212> DNA
<213> Unknown (H38g506 nucleotide)

<220>
<223> Synthetic construct

<400> 657
atgaatggaa tgaatcactc tgtggtatca gaatttgtat tcatgggact caccaactca       60
cgggagattc agcttctact ttttgttttc tctttgttgt tctactttgc gagcatgatg      120
ggaaaccttg tcattgtatt cactgtaacc atggatgctc atctgcactc ccccatgtat      180
ttcctcctgg ctaacctctc aatcattgat atggcatttt gctcaattac agcccctaag      240
atgatttgtg atattttcaa gaagcacaag gccatctcct ttcggggatg tattactcag      300
atcttcttta gccatgctct tgggggcact gagatggtgc tgctcatagc catggccttt      360
gacagataca tggccatatg taaacctctc cactacctga ccatcatgag cccaagaatg      420
tgtctatact ttttagccac ttcctctatc attggcctta tccactcatt ggtccaatta      480
gtttttgtgg tagatttacc tttttgtggt cctaatatct ttgacagttt ttactgtgat      540
ctccctcggc tcctcagact tgcctgtacc aacacccaag aactggagtt catggtcact      600
gtcaatagtg gactcatttc tgtgggctcc tttgtcttgc tggtaatttc ctacatcttc      660
attctgttca ctgtttggaa acattcttct ggtggtctag ccaaggccct ctctaccctg      720
tcagctcatg tcactgtggt catcttgttc tttgggccac tgatgttttt ctacacatgg      780
ccttctccca catcacacct ggataaatat cttgctattt ttgatgcatt tattactcct      840
tttctgaatc cagttatcta cacattcagg aacaaagaca tgaaagtggc aatgaggaga      900
ctgtgcagtc gtcttgcgca ttttacaaag atttg                                 936

<210> 658
```

<211> 980
<212> DNA
<213> Unknown (H38g507 nucleotide)

<220>
<223> Synthetic construct

<400> 658
atggagcaaa ggaaaaatgt gactgagttt gtccttgtgg ggctcactca gagcccccag 60
ggacagaaaa tattatttct tgtgttcttg ctcatctacg ttgtgacaat ggtaggcaac 120
atattcattg ttgtgactgt ggtggtcagc ccaactttgg atgccccatg tacttcttcc 180
ttggctactt atcatttatg gatgctgttc attctactac agttacccca aatatgatta 240
tagacttact ctatgagaag aaaaccattt cgttccaagc ttgattaccc agatttttat 300
aggacaccta tttgggggtg ctgagatttt actccttgtt gtcatggcct atgatggcta 360
cgtgaccatc tgcaaacccc tgcattattt gaccatcatg aaccaacggg tgtgcattct 420
actgctgctg ttggcctggg ctggaggttt cttgcatgct gtagttcaac ttctttttgt 480
ttacaacctt cccttctgtg gccccaatgt cattgaccat ttcatctgtg acatgtaccc 540
tttattaaaa cttgcctgca ctgacaccta tgttactggc ctcactgtgg ttgccaatga 600
tggggcaatc tgtgtggtca tctttatgct cttactcttc tcctatgggg tcattctgca 660
ctccctgaag aatcttagtc aggaagggag gcacaaagcc ttatccacct gtggctccca 720
tatcactgtg gtgatcctct tctttgtccc ttgtattttc atgtatgtga gacctccttt 780
gaccttaccc attgataaat ccttgactgt gttttacact gttatcacac ctatgttgaa 840
ccctctaatc tatactttaa gaaatgcaga gatgaaaaat gctatgaaga agctctggac 900
tagaaaaaga aaatgaggtg gcagacaaat gtatcatcta ttttcagtga agagttgctc 960
cctccaggaa agccatttgt 980

<210> 659
<211> 917
<212> DNA
<213> Unknown (H38g508 nucleotide)

<220>
<223> Synthetic construct

<400> 659
atgaatctta aaaatggatc tctagtgacc gagtttattt tactaggatt ttttggacga 60
tgggaacttc aaatttttctt ctttgtgaca ttttccctga tctacggtgc tactgtggtg 120
ggaaacattc tcattatggt cacagtgaca tgtagttcga cccttcattc tcccttgtac 180
tttctccttg gaaatctctc ttttttggac atgtgtctct ccactgccac aacacccaag 240
atgatcacaa gaccatctct gtgtggggct gcgtgaccca gaagttcttc atgcacttct 300
ttgggagtgc tgagatgact cttctgataa tcatggcctt tgacaggtat gtagccatat 360
gtaaacccct gcactatagg acaatcatga gccacaagct gctaaagggg tttgcgatac 420
tttcatggat aattggtttt ttacactcca taagccagat agttttaaca atgaacttgc 480
ctttctgtgg ccacaatgtc ataaacaaca tattttgtga tcttcccctt gtgatcaagc 540
ttgcttgcat tgaaacatac accctggaat tatttgtcat tgctgacagc gggctgctct 600
ctttcacctg tttcatcctc ttgcttgttt cttacattgt catcctggtc agtgtaccaa 660
aaaaatcatc acatgggctc tccaaggcgc tgtccacatt gtctgcccac atcattgtgg 720
tcactctgtt ctttggacct tgtattttta tctatgtttg gccattcagt agtttggcaa 780
gcaataaaac tcttgctgta ttttatacag ttatcacacc gttactgaat ccgagtattt 840
ataccctgag aaataagaaa atgcaagagg ccataagaaa attacggttc caatatgtta 900
gttctgcaca gaatttc 917

<210> 660
<211> 1008
<212> DNA
<213> Unknown (H38g509 nucleotide)

<220>
<223> Synthetic construct

<400> 660

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tctacagacc cacagaatct aacagatgtc tctatattcc tcctcctaga acctcagagg      60
atccagaatg acagccggtc ctcgctgggc tgttcctgtc catgtgcctg gtcacggtgc     120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt     180
acatcttctt ctccaacctg tccttgcctg acatcggttt cacctccacc acggtcccca     240
agatgactgt ggacatccag tctcacagca gagtcatctc ctatgcaggc tgcctgactc     300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgttcct gagtgtgatg     360
gcctatgacc ggtttgtagc catctgtcac cctctatatc attcagccat catgaacccg     420
tgtttctgtg gctttctagt tttgttgtct ttttttttt ctctcagtct tttagacgtc     480
cagctgcgca acttgattgc cttacaaatg acctgcttca aggatgtgga aattcctaat     540
ttcttctgtg acccttctca actcccccat cttgcatgtt gtgacacctt caccaataac     600
ataatcctgt atttccctgc tgccatattt ggtttcttc ccatcttggg gacccttttc     660
tcttactata aaatcgtttt ctccattctg agggtttcat catctggtgg gaagtataag     720
gccttctcca cctgtgtgtc tcacctgtca gtggtttgct gattttatgg aacaggcgtt     780
ggagggtacc tcagttcaga tgtgtcatct tccccgagaa aggctgcagt ggcctcagtg     840
atgtacacgg tggtcacccc catgctgaac cccttcatct acagcctgag aaacagggat     900
attaaaagtg tcctgcggcg gccgcacagc agcacggtct aatcttgata tcttcttatc     960
tgttccattc cttttgtagt gtgggttaaa aaaggcagca aggtcaaa                  1008
```

<210> 661
<211> 957
<212> DNA
<213> Unknown (H38g510 nucleotide)

<220>
<223> Synthetic construct

<400> 661

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atgatggaaa tagccaatgt gagttctcca gaagtctttg tcctcctggg cttctccaca      60
cgaccctcac tagaaactgt cctcttcata gttgtcttga gtttttacat ggtatcgatc     120
ttgggcaatg gcatcatcat tctggtctcc catacagatg tgcacctcca cacacctatg     180
tacttctttc ttgccaacct ccccttcctg gacatgagct tcaccacgag cattgtccca     240
cagctcctgg ctaacctctg ggaccacag aaaaccataa gctatggagg gtgtgtggtc     300
cagttctata tctcccattg gctgggggca accgagtgtg tcctgctggc caccatgtcc     360
tatgaccgct acgctgccat ctgcaggcca ctccattaca ctgtcattat gcatccacag     420
ctttgccttg ggctagcttt ggcctcctgg ctgggggtc tgaccaccag catggtgggc     480
tccacgctca ccatgctcct accgctgtgt gggaacaatt gcatcgacca cttcttttgc     540
gagatgcccc tcattatgca actggcttgt gtggatacca gcctcaatga gatggagatg     600
tacctggcca gctttgtctt tgttgtcctg cctctggggc tcatcctggt ctcttacggc     660
cacattgccc gggccgtgtt gaagatcagg tcagcagaag ggcggagaaa ggcattcaac     720
acctgttctt cccacgtggc tgtggtgtct ctgttttacg ggagcatcat cttcatgtat     780
ctccagccag ccaagagcac ctcccatgag cagggcaagt tcatagctct gttctacacc     840
gtagtcactc ctgcgctgaa cccacttatt tacaccctga ggaacacgga ggtgaagagc     900
gccctccggc acatggtatt agagaactgc tgtggctctg caggcaagct ggcgcaa        957
```

<210> 662
<211> 912
<212> DNA
<213> Unknown (H38g511 nucleotide)

<220>
<223> Synthetic construct

<400> 662

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atggaaagag caaaccattc agtggtatcg gaatttattt tgttgggact ttccaaatct      60
caaaatcttc agatttatt cttcttggga ttctctgtgg tcttcgtggg gattgtgtta     120
ggaaacctgc tcatcttggt gactgtgacc tttgattcgc tccttcacac accaatgtat     180
tttctgctta gcaacctctc ctgcattgat atgatcctgg cttcttttgc tacccctaag     240
atgattgtag atttcctccg agaacgtaag accatctcat ggtggggatg ttattcccag     300
atgttcttta tgcacctcct gggtgggagt gagatgatgt tgcttgtagc catggcaata     360
gacaggtatg ttgccatatg caaacccctc cattacatga ccatcatgag cccacgggtg     420
ctcactgggc tactgttatc ctcctatgca gttggatttg tgcactcatc tagtcaaatg     480
```

gctttcatgt tgactttgcc cttctgtggt cccaatgtta tagacagctt tttctgtgac 540
cttccccttg tgattaaact tgcctgcaag gacacctaca tcctacagct cctggtcatt 600
gctgacagtg ggctcctgtc actggtctgc ttcctcctct tgcttgtctc ctatggagtc 660
ataatattct cagttaggta ccgtgctgct agtcgatcct ctaaggcttt ctccactctc 720
tcagctcaca tcacagttgt gactctgttc tttgctccgt gtgtctttat ctacgtctgg 780
cccttcagca gatactcggt agataaaatt ctttctgtgt tttacacaat tttcacacct 840
ctcttaaatc ctattattta tacattaaga aatcaagagg taaaagcagc cattaaaaaa 900
agactctgca ta 912

<210> 663
<211> 963
<212> DNA
<213> Unknown (H38g512 nucleotide)

<220>
<223> Synthetic construct

<400> 663
atggtcaatt tgacttcaat gagtggattc cttcttatgg ggttttctga tgagcgtaag 60
cttcagattt tacatgcatt ggtatttctg gtgacatacc tgctggcctt gacaggcaac 120
ctcctcatta tcaccatcat taccgtggac cgtcgtctcc attcccccat gtattacttt 180
ttaaagcacc tctctcttct ggacctctgc ttcatctctg tcacagtccc ccagtccatt 240
gcaaattcac ttatgggcaa cggttacatt tctcttgttc agtgcattct tcaggttttc 300
ttcttcatag ctctggcctc atcagaagtg gccattctca cagtgatgtc ttatgacagg 360
tacgcagcaa tctgtcaacc acttcattat gagactatta tggatccccg tgcctgtagg 420
catgcagtga tagctgtgtg gattgctggg ggcctctctg ggctcatgca tgctgccatt 480
aacttctcca tacctctctg tgggaagaga gtcattcacc aattcttctg tgatgttcct 540
cagatgctga aactagcctg ttcttatgaa ttcattaatg agattgcact ggctgcattc 600
acaacgtctg cagcatttat ctgtttgatc tccattgtgc tctcctacat tcgcatcttc 660
tctacagtgc tgagaatccc atcagctgag ggccggacca aggtcttctc cacctgccta 720
ccacacctat ttgtagccac cttctttctt tcagctgcag gctttgagtt tctcagactg 780
ccttctgatt cctcatcgac tgtggacctt gtattctccg tattctatac tgtgatacct 840
ccaacactca atccagtcat ttatagctta cggaatgatt ccatgaaggc agcactgagg 900
aagatgctgt caaaggaaga gcttcctcag agaaaaatgt gcttaaaagc catgtttaaa 960
ctc 963

<210> 664
<211> 930
<212> DNA
<213> Unknown (H38g513 nucleotide)

<220>
<223> Synthetic construct

<400> 664
atggacccac agaactattc cttggtgtca gaatttgtgt tgcatggact ctgcacttca 60
cgacatcttc aaaatttttt ctttatattt ttctttgggg tctatgtggc cattatgctg 120
ggtaaccttc tcattttggt cactgtaatt tctgatccct gcctgcactc ctcccctatg 180
tacttcctgc tggggaacct agctttcctg gacatgtggc tggcctcatt tgccactccc 240
aagatgatca gggatttcct tagtgatcaa aaactcatct cctttggagg atgtatggct 300
caaatcttct tcttgcactt tactggtggg gctgagatgg tgctcctggt ttccatggcc 360
tatgacagat atgtggccat atgcaaaccc ttgcattaca tgactttgat gagttggcag 420
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gacctccctc tggtgatcaa acttgcctgc atggacacct atgtcttggg tataattatg 600
atctcagaca gtgggttgct ttccttgagc tgttttctgc tcctcctgat ctcctacacc 660
gtgatcctcc tcgctatcag acagcgtgct gccggtagca catccaaagc actctccact 720
tgctctgcac atatcatggt agtgacgctg ttctttggcc cttgcatttt tgtttatgtg 780
cggcctttca gtaggttctc tgtggacaag ctgctgtctg tgttttatac cattttact 840
ccactcctga accccattat ctacacattg agaaatgagg agatgaaagc agctatgaag 900
aaactgcaaa accgacgggt gacttttcaa 930

<210> 665
<211> 957
<212> DNA
<213> Unknown (H38g514 nucleotide)

<220>
<223> Synthetic construct

<400> 665
atggaaagaa agaatcaaac agctataact gaattcatca tcttgggatt ctccaaccta 60
aatgaattgc agtttttact attcaccatc ttctttctga cttatttctg tactttggga 120
ggaaatatat taattatctt gacgactgtg actgatccac acctgcatac acctatgtat 180
tattttctag ggaacttggc ctttattgac atctgctaca ccaccagcaa tgtcccccag 240
atgatggtgc acctcctctc aaagaaaaaa agcatttctt atgtggggtg tgtggttcaa 300
ctttttgcat ttgttttctt tgtaggatca gagtgtctcc tactggcagc aatggcatat 360
gatcgttaca ttgcaatctg caatccttta aggtattcag ttattctgag caaggttcta 420
tgcaatcaat tagcagcctc atgctgggct gctggtttcc ttaactcagt ggtgcataca 480
gtgttgacat tctgcctgcc cttctgtggc aacaatcaga ttaattactt cttctgtgac 540
atcccccctt tgctgatctt gtcttgtgga aacacttctg tcaatgagtt ggcactgcta 600
tccactgggg tcttcattgg ttggactcct ttcctttgta tcgtactttc ctacatttgc 660
ataatctcca ccatcttgag gatccagtcc tcagagggaa gacgaaaagc cttttctaca 720
tgtgcctccc acctggccat tgtctttctc ttttatggca gcgccatctt tacatatgta 780
cggcccatct caacttactc attaaagaaa gataggttgg tttcagtgtt gtacagtgtt 840
gttacccccca tgctaaaccc tataatttac acattgagga ataaggacat caaagaagct 900
gtcaaaacta tagggagcaa gtggcagcca ccaatttcct ctttggatag taaactc 957

<210> 666
<211> 910
<212> DNA
<213> Unknown (H38g515 nucleotide)

<220>
<223> Synthetic construct

<400> 666
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gtactatttc ttttcttcta tatgtccatt tgggttggca atgtcctcat catggtcaca 120
gtagcatctg ataaatacct gaattcatca cccatgtatt tccttcttgg caacctctca 180
tttctggacc tatgttattc aacagtaacg acccctaagc ttctggctga cttctttaat 240
catgaaaaac tcatttccta tgaccaatgc attgtgcaac tcttcttcct gcattttgta 300
ggggcagctg agatgttcct gctcacagtg atggcgtacg atcgctatgt tgcaatctgt 360
cgcccgctgc actacaccac tgtcatgagt cgggggttat gctgtgtgtt ggttgctgcc 420
tcctggatgg gaggatttgt gcactccact gtccagacca ttctcactgt ccatctaccc 480
ttttgtgggc caaatcaggt ggaaaacttt tttttgtgat gttcccccctg tcatcaaact 540
tgcttgtgct gacacttttg tcattgaatt gctcatggta tctaacagtg ggttgatctc 600
caccatctcc tttgtggtgc tgatttcctc ctacaccact atcctagtca agattcgctc 660
caaggaagga aggcgaaagg cactctccac gtgtgcctct cacctcatgg tggtaacact 720
gtttttgga ccctgtattt tcatctacgc tcgtcctttc tctacatttt ctgtggacaa 780
gatggtgtct gtactctaca atgttattac ccccaatgcta aacccctca tctacacact 840
tcggaacaaa gaggtaaagt cagccatgca gaagctctgg gtcagaaatg ggcttacttg 900
gaaaaagcag 910

<210> 667
<211> 945
<212> DNA
<213> Unknown (H38g516 nucleotide)

<220>
<223> Synthetic construct

<400> 667
atggagaatg tcactacaat gaatgagttt cttctacttg gcctgactgg tgttcaggag 60
ctgcagcctt tcttctttgg gattttctta atcatttacc tgataaactt gattggaaat 120
ggatctatat tggtgatggt tgttttggaa ccacaactcc actcccctat gtattttttt 180
ctgggaaacc tttcttgtct ggatatttct tattcttcag tgacactgcc caagctgctc 240
gtaaacctcg tgtgcagtcg cagggctata tcttttctag gctgtatcac ccagctacac 300
ttcttccact ttttgggaag cacagaggcc atttactgg ctatcatggc ctttgaccgt 360
tttgttgcca tctgcaatcc tcttcgctac actgtcatca tgaacccca ggtgtgtatt 420
ctgttggcag ctgcggcctg gctcatcagc ttcttttacg ctctgatgca ttctgtcatg 480
actgcacacc tgagtttttg tggctctcag aaactcaatc acttcttcta cgatgtcaag 540
ccgctcttag aattggcctg tagtgacaca ttactcaatc aatggcttct ttccattgtc 600
acaggcagca tatccatggg agctttcttt ctgactcttc tctcctgctt ctatgtaatt 660
ggcttccttc tgtttaagaa caggtcctgc agaatactcc acaaggctct gtccacttgt 720
gcctcccatt ttatggtggt atgtcttttc tatggacctg tgggcttcac atatattcgt 780
cctgcttcag ccacctccat gattcaggac cggataatgg ccatcatgta tagcgccgtc 840
acccctgtac tgaatccact aatctacacc cttaggaaca aagaagtgat gatggctctg 900
aagaaaatct ttggtaggaa gttgtttaaa gactggcagc aacac 945

<210> 668
<211> 966
<212> DNA
<213> Unknown (H38g517 nucleotide)

<220>
<223> Synthetic construct

<400> 668
atgaatgaga caaatcattc tcgggtgaca gaatttgtgt tgctgggact gtctagttca 60
agggagctcc aacctttctt gtttcttaca ttttcactac tttatctagc aattctgttg 120
ggcaactttc tcatcatcct cactgtgacc tcagattccc gccttcacac ccccatgtac 180
tttctgcttg caaacctgtc atttatagac gtatgtgttg cctcttttgc taccccctaaa 240
atgattgcag actttctggt tgagcgcaag actatttctt ttgatgcctg cctggcccag 300
attttctttg ttcatctctt cactggcagt gaaatggtgc tcctagtttc catggcctat 360
gaccgttatg ttgctatatg caaacctctc cactacatga cagtcatgag ccgtcgtgta 420
tgtgttgtgc tcgtcctcat ttcatggttt gtgggcttca tccatactac cagccagttg 480
gcattcactg ttaatctgcc attttgtggt cctaataagg tagacagttt tttctgtgac 540
cttcctctag tgaccaagtt agcctgcata gacacttatg ttgtcagctt actaatagtt 600
gcagatagtg gctttctttc tctgagttcc tttctcctct tggttgtctc ctacactgta 660
atacttgtta cagttaggaa tcgctcctct gcaagcatgg cgaaggcccg ctccacattg 720
actgctcaca tcactgtggt cactttattc tttggaccat gcattttcat ctatgtgtgg 780
cccttcagca gttactcagt tgacaaagtc cttgctgtat tctacaccat cttcacgctt 840
attttaaacc ctgtaatcta cacgctaaga aacaaagaag tgaaggcagc tatgtcaaaa 900
ctgaagagtc ggtatctgaa gcctagtcag gtttctgtag tcataagaaa tgttcttttc 960
ctagaa 966

<210> 669
<211> 594
<212> DNA
<213> Unknown (H38g518 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(594)
<223> n = A,T,C or G

<400> 669
gnncggctac tactacccat gtactgtttc ctgnctatac tgtccgccac tgacctcggc 60
ctgtccatat ccactctggt caccatgctg agtatattct ggttcaatgt gagggaaatc 120
agctttaatg cctgcttgtc ccacatgttc tttattaaat tcttcactgt catggaatcc 180

tcagtgctgt tggccatggc ttttgatcgt tttgtggccg tctctaatcc ccttaggtat 240
gccatgattt taactgactc cagaatagct caaattggag tggcaagtgt catcaggggg 300
ctcctaatgc tgacaccaat ggtagcactt cttataagac tttcctactg ccacagcccg 360
agtactccac cactcctact gctaccaccc tgatgtgatg aagttctcat gcacagacgc 420
cagaatcaac agtgcagttg ggctgactgc catgttctct actggttggt gtagacttac 480
ttctcatcct cctttcttat gttttgatca ttaggactgt ccttancgtt gcttccccag 540
aagagaggaa ggaaaccctt cagtacatgt gtctcccaca ttgggggctt ttgc 594

<210> 670
<211> 939
<212> DNA
<213> Unknown (H38g519 nucleotide)

<220>
<223> Synthetic construct

<400> 670
atgagccctg agaaccagag cagcgtgtcc gagttcctcc ttctgggcct ccccatccgg 60
ccagagcagc aggctgtgtt cttcaccctg ttcctgggca tgtacctgac cacggtgctg 120
gggaacctgc tcatcatgct gctcatccag ctggactctc accttcacac ccccatgtac 180
ttcttcctca gccacttggc tctcactgac atctcctttt catctgtcac tgtccctaag 240
atgctgatgg acatgcggac taagtacaaa tcgatcctct atgaggaatg catttctcag 300
atgtattttt ttatattttt tactgacctg gacagcttcc ttattacatc aatggcatat 360
gaccgatatg ttgccatatg tcaccctctc cactacactg tcatcatgag ggaagagctc 420
tgtgtcttct tagtggctgt atcttggatt ctgtcttgtg ccagctccct ctctcacacc 480
cttctcctga cccggctgtc tttctgtgct gcgaacacca tcccccatgt cttctgtgac 540
cttgctgccc tgctcaagct gtcctgctca gatatcttcc tcaatgagct ggtcatgttc 600
acagtagggg tggtggtcat taccctgcca ttcatgtgta tcctggtatc atatggctac 660
attggggcca ccatcctgag ggtcccttca accaaaggga tccacaaagc attgtccaca 720
tgtggctccc atctctctgt ggtgtctctc tattatgggt caatatttgg ccagtacctt 780
ttcccgactg taagcagttc tattgacaag gatgtcattg tggctctcat gtacacggtg 840
gtcacaccca tgttgaaccc ctttatctac agccttagga acagggacat gaaagaggcc 900
cttgggaaac tcttcagtag agcaacattt ttctcttgg 939

<210> 671
<211> 586
<212> DNA
<213> Unknown (H38g520 nucleotide)

<220>
<223> Synthetic construct

<400> 671
ckactactac tacctatgta ttttttctk kgcaacctgt cactgttaga tctctgcctt 60
ccttcaatcc ctgtgcccaa gatgctgcag aatttattaa ctcaaaggta aaccatctct 120
atgtggtact gcattgtcca gagtttcttt ctcatattct ctgggagcac agaagcctgc 180
ctactccttg ccatggcctg tgatcactct acttccaact gccaccctcg gctcaacgat 240
gtggttatga atcagcctgt ctgtgtcagg atggtgattg cagcatgggc agtgggattc 300
ctaaactcct tgacaaagaa tcttttcatt tacaacttac acttctgtgg ccccagtgtc 360
atccctcact tctgctgtga gctgccttca ctcttccctc tctcttgtat tgatccagct 420
gccagtgagg tccttcctgc tgggtcatgt acattgctag gatttgtgac ttgccgctgg 480
tcctcttttc ttactctaac accatctctg cctcctagcc atttgktttt ctgagggtca 540
aggcaaagcc ttctccacct gctcctccca cctcaccgtg gtgctt 586

<210> 672
<211> 918
<212> DNA
<213> Unknown (H38g521 nucleotide)

<220>
<223> Synthetic construct

<400> 672
atgagccctg agaaccagag cagcgtgtcc gagttcctcc tcctgggcct ccccatccgg 60
ccagagcagc aggccgtgtt cttcgccctg ttcctgggca tgtacctgac cacggtgctg 120
gggaacctgc tcatcatgct gctcatccag ctagactctc accttcacac ccccatgtac 180
ttcttcctta gccacttggc cctcactgac atctcctttt catctgtcac tgtccctaag 240
atgctgatga acatgcagac tcagcaccta gccgtctttt acaagggatg catttcacag 300
acatattttt tcatattttt tgctgactta gacagtttcc ttatcacttc aatggcatat 360
gacaggtatg tggccatctg tcatcctcta cattatgcca ccatcatgac tcagagccag 420
tgtgtcatgc tggtggctgg gtcctgggtc atcgcttgtg cgtgtgctct tttgcatacc 480
ctcctcctgg cccagctttc cttctgtgct gaccacatca tccctcacta cttctgtgac 540
cttggtgccc tgctcaagtt gtcctgctca gacacctccc tcaatcagtt agcaatcttt 600
acagcagcat tgacagccat tatgcttcca ttcctgtgca tcctggtttc ttatggtcac 660
attggggtca ccatcctcca gattccctct accaagggca tatgcaaagc cttgtccact 720
tgtggatccc acctctcagt ggtgactatc tattatcgga caattattgg tctctatttt 780
cttcccccat ccagcaacac caatgacaag aacataattg cttcagtgat atacacagca 840
gtcactccca tgttgaaccc attcatttac agtctgagaa ataaagacat taagggagcc 900
ctaagaaaac tcttgagt 918

<210> 673
<211> 591
<212> DNA
<213> Unknown (H38g522 nucleotide)

<220>
<223> Synthetic construct

<400> 673
ctactactac cyatgtattt ttttcttggc aacctstccc tcatggacat ctgcggcacc 60
tcctcctttg tgcctctcat rctagacaat ttcctggaaa cccagaggac catttccttc 120
cctggctgtg ccctgcagat gtacctgacc ctggcgctgg gatcaacgga gtgcctgctg 180
ctggctgtga tggcatatga ccgttatgtg gctatctgcc agccgcttag gtacycagag 240
ctcatgagtg ggcagacctg catgcagatg gcagcgctga gctgggggac aggctttgcc 300
aactcactgc tacagtccat ccttgtctgg cacctcccct tctgtggcca cgtcatcaac 360
tacttctatg agatcttggc agtgctaaaa ctggcctgtg ggacatctcc cctcaatgcg 420
ctggcattaa tggtggccac agccgtcctg acactggccc ccctcttgct catctgcctg 480
tcttaccttt tcatcctgtc tgccatcctt agggtaccct ctgctgcagg ccggtgcaaa 540
gccttctcca cctgctcagc ccaccgcaca gtggtggtgg ttttttatgg g 591

<210> 674
<211> 985
<212> DNA
<213> Unknown (H38g523 nucleotide)

<220>
<223> Synthetic construct

<400> 674
gttaatggat ggagtaataa atcagtggtt actgaattca atttgttggg gctgtctagc 60
tcttgggaac tccaagtctt ctttttcttt atcttctctg tgttttatgg agctgcagtg 120
ttgggaaaca tccttatcat catcacagta attatagact ctcatttgca ttccccaatg 180
tactttcttc ttagcaatct ctcttccatc gatgtgtgtc aggctacatt tgccactccc 240
aagatgattg cagacttcct caacgaacac aagaccacca ctttccaggg atgcatgtca 300
caaatctttt tcttgcatgt ttttggggggt agtgagatgg tgcttcttgt tgccatggcc 360
tatgatagat acattgctat atgcaaacct ctgcactaca tgaccatcat gaaccggagg 420
gtgtgaactg ttctggtggg ggtttcctgg gccattggca tctcacactc agccacccac 480
ctggcattca aagtcaatct gcctttctgt ggacccaaca gggtagacaa ttttttctgt 540
gacctcctcc tagtgatcaa gcttgcctgc ttagacacct atggttttga gatactggtg 600
ctcactaaca gtggtctgct ctcacttatg tgtttcctcc ttttgctcat ttctgacact 660
atcatccttg ctactgtgca tcgccaagcc tctgatggga tgtccaaggc cctttccact 720
ctgtctgccc acattactgt tgtgcttctc ttctttggcc cattaatatt catctatatt 780

tggccctttg aaagcttccc aattgataaa tttatctctg tgttttttta ctgtcttcac 840
tcctctcctt aaccccatga tttatactct gaggaataaa gatataaagg aagccatgag 900
gaagctaagg agatgacatg tgggttccaa gcagggtttt tagacaacta caaagaagta 960
atacaaattc ctacttttgg gcttt 985

<210> 675
<211> 780
<212> DNA
<213> Unknown (H38g524 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(780)
<223> n = A,T,C or G

<400> 675
atgtatttct tcttgagttt tttgtctctc actgatattt gctttacaac aagcgttgtc 60
cccaagatgc tgatgaactt cctgtcagaa aagaagacca tctcctatgc tgggtgtctg 120
acacagtatg tattttctct atgccttggg caacagtgac agctgccttc tttcgtaant 180
gcctttgacc gctatgttgc cgtctgtgac cctttccact atgtcaccac catgagccac 240
caccactgtg ttctgctggt ggccttctcc tgctcattta cttaccttca ctcactcctg 300
cacacacttc tgctgaatcg tctcaccttc tgtgactcca atgttatcca ccactttctc 360
tgtgacctca gccctgtgct gaaattgtcc tgctcttcca tatttgtcaa tgaaattgtg 420
cagatgacag aagcacctat tgttttggtg actcgttttc tctgcattgc tttctcttat 480
atacgaatcc tcactacagt tctcaagatt ccctctactt ctgggaaacg caaagccttc 540
tccacctgtg gtttttacct caccgtggtg acgctctttt atggaagcat cttctgtgtc 600
tatttacagc cccatccac ctacgctgtc aaggaccacg tggcaacaat tgtttacaca 660
gttttgtcat ccatgctcaa tccttttatc tacagcctga gaaacaaaga cctgaaacag 720
ggcctgagga agcttatgag caagagatcc taggaagcac cctcttgaaa aactcgtaag 780

<210> 676
<211> 576
<212> DNA
<213> Unknown (H38g525 nucleotide)

<220>
<223> Synthetic construct

<400> 676
tactactact accctatgta tttttttctt tgcaacctgt ccttcctgga catgagcttc 60
accacgagca ttgtcccaca gctcctggct aacctctggg gaccacagaa aaccataagc 120
tatggagggt gtgtggtcca gttctatatc tcccattggc tgggggcaac cgagtgtgtc 180
ctgctggcca ccatgtccta tgaccgctac gctgccatct gcaggccact ccattacact 240
gtcattatgc atccacagct ttgccttggg ctagctttgg cctcctggct gggggtctg 300
accaccagca tggtgggctc cacgctcacc atgctcctac cgctgtgtgg gaacaattgc 360
atcgaccact tcttttgcga gatgcccctc attatgcaac tggcttgtgt ggataccagc 420
ctcaatgaga tgggagatgt acctggccag ctttgtcttt gttgtcctgc ctctggggct 480
catcctggtc tcttacggcc acattgccgg gccgkgttga agaacaagtc agcagaaggg 540
cggagaaagg cattcaacac ctgttctttc cacgtg 576

<210> 677
<211> 929
<212> DNA
<213> Unknown (H38g526 nucleotide)

<220>
<223> Synthetic construct

<400> 677

```
atggatataa gaaacagctc aataataatc tgagtttgtt ttgttagaat tcatcagcac      60
ttgggaactt gaaattttgt ttcttaaata tttttgttgg cctatgcagc aatcatggca     120
ggaaacctca ctgcaatcgc tgtaacctcc aatcctcccc tttgctcaac acctatgtac     180
ttcctccttg gaaatctctc ctttctcagt atgtttattt ccacagtcac aatctctaag     240
atggtccaga cgttctcagg gagaataaaa ccacttcctc atggggctgt atggctcaga     300
tctccacttc ttaggaggca gtgagatgac tcttctcata tttatggctg ttgatcagca     360
cattgcaata tgcagacctc ttcactgcag aaccatcacg aactgcaggg tactcatggc     420
cactcatggg ctctgtgctg ctatcacggg ctgttggttt tgtgcatact ataagccaga     480
ttgtttttat tatcaccttg cccttctgtg gccccagtgt ggtggacaat ttattttgag     540
accttcctct agttctgaag cttgcctgca ctgagactta tgatctggag ttgctggtaa     600
ttgctaaaag tggacagttg tctttcatct gcttcatagt cttgctcatt ttctacacta     660
ttattctggt aactgtgcag catcgatcct ctgatgcact ctccaaggct ctgtccacac     720
tgtctgctca tatcactgca gtcactctat ttttatgagc catgtgtcta catttacact     780
tggccattta ggagcttttc agtggataca tttctttctg tgttttattc agttacaccc     840
ttactgaacc ccattactta cagtctgaga tgaaagcatc tatacatcaa ctgaggaccc     900
aacacatcat ctccagacaa accttctct                                       929
```

<210> 678
<211> 595
<212> DNA
<213> Unknown (H38g527 nucleotide)

<220>
<223> Synthetic construct

<400> 678

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ctactactac ccatgtattt ttttctgtgc aacctgtccc tggtggactt tggttattcc      60
tcagctgtca ctcccaaggt gatggtgggg tttctcacag gagacaaatt catattatat     120
aatgcttgtg ccacacaatt cttcttcttt gtagccttta tcactgcaga aagtttcctc     180
ctggcatcaa tggcctatga ccgctatgca gcattgtgta aacccctgca ttacaccacc     240
accatgacaa caaatgtatg tgctcgcctg gccataggct cctacatctg tggtttcctg     300
aatgcatcca ttcatactgg gaacactttc aggctctcct tctgtagatc caatgtagtt     360
gaacactttt tctgtgatgc tcctcctctc ttgactctct catgttcaga caactacatc     420
agtgagatgg ttattttttt ttgtggtggg attcaatgac ctcttttcta tcctggtaat     480
cttgatctcc tacttattta tatttatcac catcatgaag atgcgctcac ctgaaggacg     540
ccagaaggcc ttttctactt gtgcttccca ccttactgca gtttccatct tttat          595
```

<210> 679
<211> 945
<212> DNA
<213> Unknown (H38g528 nucleotide)

<220>
<223> Synthetic construct

<400> 679

```
atggaggcca tgaaactatt aaatcaatct caagtgtcag aattcatttt gctgggactg      60
accagctccc aggatgtaga gtttcttctc tttgccctct tctcggttat ctatgtggtc     120
acagttttgg gtaaccttct tattatagtc acagtgttta acacccctaa cctgaatact     180
cccatgtatt ttctccttgg taatctctct tttgtagata tgacccttgc ttcttttgcc     240
acccctaagg tgattctgaa cttgttaaaa aagcagaagg taatttcttt tgctgggtgc     300
ttcactcaga tatttctcct tcacttactg ggtggggttg aaatggtact gttggtctcc     360
atggcttttg acagatatgt ggccatttgt aagcccctac actacatgac catcatgaac     420
aagaaggtat gtgttttgct tgtagtgacc tcatggctct tgggtctcct tcactcaggg     480
tttcagatac catttgctgt gaacttgccc ttttgtggtc ccaatgtggt agacagcatt     540
ttttgtgacc tccctttggt tactaagctt gcctgtatag acatatattt tgtacaggta     600
gtcattgttg ccaacagtgg cataatctcc ctgagctgtt tcattatttt gcttatctcc     660
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tccactttga ctgctcacat cacagtggtg attctcttct ttggcccatg catctttatc     780
tacatttggc ccttcggcaa ccactctgta gataagttcc ttgctgtgtt ttataccatc     840
atcactccta tcttgaatcc aattatctat actctgagaa acaaagaaat gaagatatcc     900
```

atgaaaaaac tctggagagc ttttgtgaat tctagagaag atact 945

<210> 680
<211> 951
<212> DNA
<213> Unknown (H38g529 nucleotide)

<220>
<223> Synthetic construct

<400> 680
atggagcccc aaaatacctc cactgtgact aactttcagc tgttaggatt ccagaacctt 60
cttgaatggc aggccctgct ctttgtcatt ttcctgctca tctactgcct gaccattata 120
gggaatgttg tcatcatcac cgtggtgagc cagggcctgc gactgcactc ccctatgtac 180
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tgtgccaggt tggtggtggt ctcatggtgc acaggggtca gcacaggctt tctgcattcc 480
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ctcccgccac tcatgcagct ctcctgttcc agagtttata tcaccgaggt gaccatcttc 600
atcctgtcaa ttgccgtgct gtgcatttgt ttttttctga cactgggggcc ctatgtttc 660
attgtgtcct ccatattgag aatcccttcc acctctggcc ggagaaagac cttttccaca 720
tgtggctccc acctggctgt tgtcactctc tactacggga ccatgatctc catgtatgtg 780
tgtcccagtc cccacctgtt gcctgaaatc aacaagatca tttctgtctt ctacactgtg 840
gtcacaccac tgctgaaccc agttatctac agcttgagga acaaagactt caaagaagct 900
gttagaaagg tcatgagaag gaaatgtggt attctatgga gtacaagtaa a 951

<210> 681
<211> 1005
<212> DNA
<213> Unknown (H38g530 nucleotide)

<220>
<223> Synthetic construct

<400> 681
tctacagacc cacagaatct aacagatgtc tctatattcc tcctcctaga agctcagagg 60
atccagaatg gcagccggtc ctcactgggc tgtgcctgtc catgtgcctg gtcacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac atccccatgt 180
acttcttcct ctccaacctg tccctgcctg acatcggttt cacctccacc acggtcccca 240
agatgattgt ggacatccag tctcacagca gagtcatctc ctacgcaggc tgcctgactc 300
agatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgata 360
gcctatgagc ggtttgtagc catctgtcac cctctatatc attcagccat catgaaccca 420
tgtttctgtg gctttctagt tttgttgtct tttttttttt ctcagtcttt tagacgccca 480
gctgcacaac ttgattgcct tacaaaggac ctgcttcaag gatgtggaaa ttcctaattt 540
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atcatgtatt tccctgccgc catatttggt tttcttccca tctcggggac gcttttctct 660
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ttctccacct gtgggtctca cctgtcagtt gtttgctgat tttatggaac aggcattgga 780
ggctacctca gttcagatgt gtcatcttcc ccgagaaagg ctgcagtggc ctcagtgatg 840
tacacggtgg tcatccccat gccgaacccc ttcatctaca gcctgagaaa cagggatatg 900
aaaagtgtcc tgcagcggcc acatggcagc acgatctcat ctcaatatct tcttatttgt 960
tccattcctt ttgtagtgtg ggttaaaaaa ggcagcaagg tcaaa 1005

<210> 682
<211> 990
<212> DNA
<213> Unknown (H38g531 nucleotide)

<220>

<223> Synthetic construct

<400> 682
cacacagagc cacagaatct cacaggtatc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctggg ctgtccctgt ccatgtatct ggtcacggtg 120
ctgaggaacc tgctcagcac cctggctgtc agctctgact ccccctcca cacccccatg 180
tacttcttcc tctccaacct gtgctgggct gacatcggtt tcaccttggc catagttccc 240
aagatgactg tggacatgca gtctcatagc agagtcatct ctcatgcggg ctgcctgaca 300
cagatgtctt tcttggtcct ttttgcatgt atagaagaca tgttcctgac tgtgatggcc 360
tatgacagat ttgtagccat ctgtcgccct ctttactacc cagtcatcat aaatcctcac 420
ctctgtgtct tcttcgtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
agttggattg tgtgacaatt caccttctcc aagaatgtgg aaatctctaa ttttgtctgt 540
gagccatctc aacttctcta ccttgcctgt tctgacagca tcatcaatag catattcata 600
tattttgata gtactatgtt tggttttctt cccatttcaa ggatcctttt gtcttactat 660
aaaattgtcc cctccattct aaggatttca tcgtcagatg ggaagtataa agccttcacc 720
acctgtggct ctcacctagc agttgtttgc ttatttgatg gaacaggcat tggcatgtac 780
ctgacttcag ctgtggcacc accccccagg aatggtgtgg tggcgtcagt gatgtacgct 840
gtggtcaccc ccatgctgaa ccctttcatc tacagcctga gaaacaggga cattcaaaac 900
accctgtgga ggctgcgcag cagaagagtg gaatctcatg atctgttcca tccttttttt 960
gtgtgggtga gaaagggcaa ccacattaaa 990

<210> 683
<211> 1005
<212> DNA
<213> Unknown (H38g532 nucleotide)

<220>
<223> Synthetic construct

<400> 683
tctacagacc cacaaaatct aatagatgtc tttgtattcc tcctcctgga acctcagagg 60
atccagaacg gcagctggtc cttgctgggc tgttcctgtc catgtgcctg gtcacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt 180
acttcttcct ctccaacctg tccttgcctg acatcggttt cacctccacc acggtcccca 240
agttgattgt ggacatccaa tcttacagca gagtcatctc ctatgcaggc tgcctgactc 300
agacgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatg 360
gtctatgacc ggtttgtagc catctgtcac cctctatatc attcagccgt catgaacccc 420
tgtttctgtg gctttctagt tttgttgtct tttttttttc tcagtctttt agacgcccag 480
ctgcacaact tgattgcctt acaaatgacc tgcttcaagg atgtggaaat tcctaatttc 540
ttctgtgacc cttctcaact cccccatctt gcatgttgtg acaccttcac caataacata 600
atcatgtatt ttcctgctgc catatttggt tttcttccca tctcggggac ccttttctct 660
tactatgaaa ttgtttcctc cattctgagg gtttcatcat aaggtgggaa gtataaggcc 720
ttcgccacct gtgggtctca cctgtcagtc gtttgctgat tttatggaac aggcgttgga 780
gggtacctca gttcagatgt gtcatcttcc ccgagaaagg ctgcggtggc ctcagtgatg 840
tacactgtgg tcacccccat gctgaacccc ttcatctaca gcctgagaaa cagggatact 900
aaaagtgtcc tgcggcggcc gcacggcagc acggtgtaat cttgatatct tcttatctgt 960
tccattcctt ttgtagtgtg ggttaaaaaa ggcagaaagg tcaaa 1005

<210> 684
<211> 960
<212> DNA
<213> Unknown (H38g533 nucleotide)

<220>
<223> Synthetic construct

<400> 684
cacacagagc cacggcatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcctgt cctcgctggg ctgtccctgt ccatgtatct ggtcacagtg 120
ctaaggaacc tgctcatcat cctggctgtg agctctgact cccacctcca cacccccatg 180
tacttcttcc tctccaacct gtgctgggct gacatcagtt tcacctcggc cacggttccc 240

aagatgacgg tggacatgca gtcgcatagc agagtcatct cttatgcggg ctgcctgaca 300
cggatgtctt tcttcgtcct ttttgcatgt atagaagaca tgctcctgac tgtgatggcc 360
taggactgct ttgtagccat ctgtcgccct ctgcactacg cagtcatcgt gaatcctcac 420
ctctgtgtct tcttagtttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac 480
agttagattg tgttacaatt caccttcttc aagaatgtgg aaatctctca ttttgtctgt 540
gagccatctc aacttctcaa ccttgcctgt tctgacagct tcatcaatag catattcatg 600
tatttcgata gtactatgtt tggttttctt cccatttcag ggatcctttt gtcttactat 660
aaaattgtcc cctccattct aaggatttca tcgtcagatg ggaagtataa agccttctcc 720
acctgtggct ctcacctggc agttgtttgc ttattttatg gaacaggcat tggcgtgtac 780
ctgacttcag ctgtggcacc accccccagc aatggtgtgg tggcatcagt gaagtacacc 840
gtggtcaccc ccatgctgaa cccttttcatc tacagcctga gaaacaggga cattcaaagc 900
accctgtgga ggctgtgcag cagaacagtt aaatctcttg atctgttcca ttcttttttct 960

<210> 685
<211> 982
<212> DNA
<213> Unknown (H38g534 nucleotide)

<220>
<223> Synthetic construct

<400> 685
atttcccttc ttttctgggt ccttctcttg gtcatttcta gagttttggt agccatggca 60
tgaggaaaca gcactgaagt gactgaattc tgtcttctgg gatttggtgc ctagcaagag 120
ttttggtgta tcctcttcat tatattcctt ctcatctatg tgacctccat aatgggtaat 180
agtggaataa tcttactcat caacacagat tccagatttc aaacacccat gtactttttt 240
ctacaacatt tggcttttgt tgatatctgt tacacttctg ctatcactcc caagatgctc 300
caaagcttca cggaagaaaa gaatttgata tcattttggg gctgcatgat acaattattg 360
gtttatgcaa catttgcaac cagtgactgt tatctcctgg ctatgatagc agtggaccat 420
tatgttgcaa tctgtaagcc ccttcactat accgtaatca cgtcccaaac agtctgcatc 480
catttggtag ctggttcata catcatgggc tcaataaatg cctctgtaca tacaggtttt 540
gcattttcac tgtctttctg caagtccaat aacatcaacc actttttctg tgatggtccc 600
ccaattcttg ccctttcatg ctccaatatt gacatcaaca tcatgctact tgttgtcttt 660
gtgggattta acttgatgtt cactgggttg gtagtcatct tttcctacat ctacatcatg 720
gccaccatcc tgaaaatgtc ttctagtgca ggaaggaaaa aatccttctc aacatgtgcc 780
tcccacctga ccacagttgc cattttctat gggacactct cttacatgca cttaccagtc 840
tcattctaat aattcccagg agaatatgaa agtggcctct atattttatg gcactgttat 900
tcccatgttg aatcctttaa tctatagctt gagaaataag gaagtaaaag aagctttaaa 960
attgataggg aaaaagttct tt 982

<210> 686
<211> 927
<212> DNA
<213> Unknown (H38g535 nucleotide)

<220>
<223> Synthetic construct

<400> 686
atgacactag gaaacagcac tgaagtcact gaattctatc ttctgggatt tggtgcccag 60
catgagtttt ggtgtatcct cttcattgta ttccttctca tctatgtgac ctccataatg 120
ggtaatagtg gaataatctt actcatcaac acagattcca gatttcaaac actcacgtac 180
ttttttctac aacatttggc ttttgttgat atctgttaca cttctgctat cactcccaag 240
atgctccaaa gcttcacaga agaaaagaat ttgatgttat ttcagggctg tgtgatacaa 300
ttcttagttt atgcaacatt tgcaaccagt gactgttatc tcctggctat gatggcagtg 360
gatccttatg ttgccatctg taagcccctt cactatactg taatcatgtc ccgaacagtc 420
tgcatccgtt tggtagctgg ttcatacatc atgggctcaa taaatgcctc tgtacaaaca 480
ggttttacat gttcactgtc cttctgcaag tccaatagca tcaatcactt tttctgtgat 540
gttcccccta ttcttgctct ttcatgctcc aatgttgaca tcaacatcat gctacttgtt 600
gtctttgtgg gatctaactt gatattcact gggttggtcg tcatcttttc ctacatctac 660
atcatggcca ccatcctgaa aatgtcttct agtgcaggaa ggaaaaaatc cttctcaaca 720

tgtgcttccc acctgaccgc agtcaccatt ttctatggga cactctctta catgtatttg 780
cagtctcatt ctaataattc ccaggaaaat atgaaagtgg cctttatatt ttatggcaca 840
gttattccca tgttaaatcc tttaatctat agcttgagaa ataaggaagt aaaagaagct 900
ttaaaagtga tagggaaaaa gttattt 927

<210> 687
<211> 894
<212> DNA
<213> Unknown (H38g536 nucleotide)

<220>
<223> Synthetic construct

<400> 687
atgggtcgag gaaacagcac tgaagtgact gaattccatc ttctgggatt tggtgtccaa 60
cacgaatttc agcatgtcct tttcattgta cttcttctta tctatgtgac ctccctgata 120
ggaaatattg gaatgatctt actcatcaag accgattcca gacttcaaac acccatgtac 180
ttttttccac aacatttggc ttttgttgat atctgttata cttctgctat cactcccaag 240
atgctccaaa gcttcacaga agaaaataat ttgataacat ttcggggctg tgtgatacaa 300
ttcttagttt atgcaacatt tgcaaccagt gactgttacc tcctagctat tatggcaatg 360
gattgttatg ttgccatctg taagcccctt cgctatccca tgatcatgtc ccaaacagtc 420
tacatccaac tcgtagctgg ctcatatatt ataggctcaa taaatgcctc tgtacataca 480
ggttttacat tttcactgtc cttctgcaag tctaataaaa tcaatcactt tttctgtgat 540
ggtctcccaa ttcttgccct ttcatgctcc aacattgaca tcaacatcat tctagatgtt 600
gtctttgtgg gatttgactt gatgttcact gagttggtca tcatcttttc ctacatctac 660
attatggtca ccatcctgaa gatgtcttct actgctggga ggaaaaaatc cttctccaca 720
tgtgcctccc acctgacagc agtaaccatt ttctatggga cactctctta catgtactta 780
cagcctcagt ctaataattc tcaggagaat atgaaagtag cctctatatt ttatggcact 840
gttattccca tgttgaatcc tttaatctat agcttgagaa ataaggaagg aaaa 894

<210> 688
<211> 444
<212> DNA
<213> Unknown (H38g537 nucleotide)

<220>
<223> Synthetic construct

<400> 688
acgtacgacg gcgcgagggg ggtctctgta ttgtttctta caatacatgc aaatctacaa 60
tgatgtcaat aaaaattcaa ttaaaaatac atgtagtaaa aatagttgct aatctatgct 120
ggagtttact tgaatgtcac tatgctgatc gtcaccttca agtacacaca tatcttccat 180
catcctgagc ttgccctctg ctatgtgtct ttttccgcag ttgtcttcca cctgacagct 240
gtcaccattt tctttggagc tctctcttac atggacttac aacctgaatc tactgtgttt 300
caagagcaag aaaagccagc atccatattt tgtggcatta tgactctcgt gttaaacttc 360
cttatctact gcctgtgaaa ttaggaagta aaagaagctc tacagttaac aaggaaaaag 420
tattaataca tgtagactga gggt 444

<210> 689
<211> 888
<212> DNA
<213> Unknown (H38g538 nucleotide)

<220>
<223> Synthetic construct

<400> 689
atgctagtgt cacaacagga gcagcctctt ctgtttggca tcttccttgg catgtacctg 60
gtcaccatgg tggggaacct gctcattatc ctggccatca gctctgaccc acacctccat 120
actcccatgt acttctttct ggccaacctg tcattaactg atgcctgttt cacttctgcc 180
tccatcccca aaatgctggc caacattcat acccagagtc agatcatctc gtattctggg 240

tgtcttgcac agctatattt cctccttatg tttggtggcc ttgacaactg cctgctggct 300
gtgatggcat atgaccgcta tgtggccatc tgccaaccac tccattacag cacatctatg 360
agtccccagc tctgtgcact aatgctgggt gtgtgctggg tgctaaccaa ctgtcctgcc 420
ctgatgcaca cactgttgct gacccgcgtg gctttctgtg cccagaaagc catccctcat 480
ttctattgtg atcctagtgc tctcctgaag cttgcctgct cagataccca tgtaaacgag 540
ctgatgatca tcaccatggg cttgctgttc ctcactgttc ccctcctgct gatcgtcttc 600
tcctatgtcc gcattttctg ggctgtgttt gtcatctcat ctcctggagg gagatggaag 660
gccttctcta cctgtggttc tcatctcacg gtggttctgc tcttctatgg gtctcttatg 720
ggtgtgtatt tacttcctcc atcaacttac tctacagaga gggaaagtag ggctgctgtt 780
ctctatatgg tgattattcc cacgctaaac ccattcattt atagcttgag gaacagagac 840
atgaaggagg ctttgggtaa actttttgtc agtggaaaaa cattcttt 888

<210> 690
<211> 939
<212> DNA
<213> Unknown (H38g539 nucleotide)

<220>
<223> Synthetic construct

<400> 690
atgaagaggg agaatcagag cagtgtgtct gagttcctcc tcctggacct ccccatctgg 60
ccagagcagc aggctgtgtt cttcaccctg ttcttgggca tgtacctgat cacggtgctg 120
gggaacctgc tcatcatcct gctcatccgg ctggactctc accttcacac ccccatgttc 180
ttcttcctca gccacttggc tctcactgac atctcccttt catctgtcac tgtcccaaag 240
atgttattaa gcatgcaaac tcaggatcaa tccattcttt atgcagggtg tgtaactcag 300
atgtattttt tcatattttt cactgatcta gacaatttcc ttctcacttc aatggcatac 360
gatcggtatg tggccatctg tcacccccctc cgctacacca ctatcatgaa agagggactg 420
tgtaacttac tagtcactgt gtcctggatc ctctcctgta ccaatgccct gtctcacact 480
ctcctcctgg cccagctgtc cttttgtgct gacaacacca tcccccattt cttctgtgat 540
cttgttgccc tactcaagct ctcatgctca gacatctccc tcaatgagct ggtcattttc 600
acagtgggac aggcagtcat tactctacca ctaatatgca tcttgatctc ttatggccac 660
attggggtca ccatcctcaa ggctccatct actaagggca tcttcaaagc tttgtccacc 720
tgtggctctc acctctctgt ggtgtctctg tattatggca caattattgg actgtatttt 780
ctcccctcat ccagtgcctc cagtgacaag gacgtaattg cctctgtgat gtacacggtg 840
atcaccccat tgctgaatcc cttcatttat agcctaagga acagggacat aaagggagcc 900
ctggagagac tcttcaacag ggcaacagtc ttatctcaa 939

<210> 691
<211> 933
<212> DNA
<213> Unknown (H38g540 nucleotide)

<220>
<223> Synthetic construct

<400> 691
atggaaaacc aatccagcat ttctgaattt ttcctccgag gaatatcagc gcctccagag 60
caacagcagt ccctcttcgg aattttcctg tgtatgtatc ttgtcacctt gactgggaac 120
ctgctcatca tcctggccat tggctctgac ctgcacctcc acaccccccat gtactttttc 180
ttggccaacc tgtcttttgt tgacatgggt ttaacgtcct ccacagttac caagatgctg 240
gtgaatatac agactcggca tcacaccatc tcctatacgg gttgcctcac gcaaatgtat 300
ttctttctga tgtttggtga tctagacagc ttcttcctgg ctgccatggc gtatgaccgc 360
tatgtggcca tttgccaccc cctctgctac tccacagtca tgaggcccca agtctgtgcc 420
ctaatgcttg cattgtgctg ggtcctcacc aatatcgttg ccctgactca cacgttcctc 480
atggctcggt tgtccttctg tgtgactggg gaaattgctc actttttctg tgacatcact 540
cctgtcctga agctgtcatg ttctgacacc cacatcaacg agatgatggt ttttgtcttg 600
ggaggcaccg tactcatcgt cccctttta tgcattgtca cctcctacat ccacattgtg 660
ccagctatcc tgagggtccg aacccgtggt ggggtgggca aggccttttc cacctgcagt 720
tcccacctct gcgttgtttg tgtgttctat gggaccctct tcagtgccta cctgtgtcct 780
ccctccattg cctctgaaga gaaggacatt gcagcagctg caatgtacac catagtgact 840

cccatgttga accccttat ctatagccta aggaacaagg acatgaaggg ggccctaaag 900
aggctcttca gtcacaggag tattgtttcc tct 933

<210> 692
<211> 945
<212> DNA
<213> Unknown (H38g541 nucleotide)

<220>
<223> Synthetic construct

<400> 692
atgggaggca agcagccctg ggtcacagaa ttcatcctgg tgggattcca ggttggtcca 60
gcactggcga ttctcctctg tggactcttc tctgtcttct atacactcac cctgctgggg 120
aatggggtca tctttgggat tatctgcctg gactctaagc ttcacacacc catgtacttc 180
ttcctctcac acctggccat cattgacatg tcctatgctt ccaacaatgt tcccaagatg 240
ttggcaaacc taatgaacca gaaaagcacc atctcctttg ttccatgcat aatgcagact 300
tttttgtatt tggcttttgc tgttacagag tgcctgattt tggtggtgat gtcctatgat 360
aggtatgtgg ccatctgcca ccctttccag tacactgtca tcatgagctg gagagtgtgc 420
acgatcctgg cctcaacatg ctggataatt agctttctca tggctctggt ccatataact 480
catattctga ggccgccttt ttgtggccca caaaagatca accactttat ctgtcaaatc 540
atgtccgtat tcaaattggc ctgtgctggc cctaggctca accaggtggt cctatatgcg 600
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ctgtcgcgcc atcttgagga tccagtaatg ggggagggccg cagaccgact tactcttcct 720
gctccttccc acctttgcat ggtgggactc ctttttggca gcaccatggt catgtacatg 780
gcccccaagt cccgccaccc tgaggagcag cagaaggtcc tttccctgtt ttacagcctt 840
ttcaacccga tgctgaaccc cttgatctac agcctgagga acgcagaggt caagggtgcc 900
ctgaaaagag tgttgtggaa acagagatca aagtgaggga tgcca 945

<210> 693
<211> 575
<212> DNA
<213> Unknown (H38g542 nucleotide)

<220>
<223> Synthetic construct

<400> 693
ttgaaggttt attaaaaggc aatatgagtg cagaagcaag gtaagttttt tgtaataatt 60
ttttgttaat aatgtgaaat gtaaggaaaa aatatacaac tttaagtttc tgactgtcct 120
gctagaaact agttttgccc tgcagcgacc cctctgtggg aatctcattg atgacaagtg 180
aaattctgga agtgctaaag ttagtttgct caagttcact gctcatggat atgatcatga 240
tggtgggtca acattcttct cttgccaatt ccaatgtact tatttataac tatgtgctct 300
gtaatcttat ttttaaagag atcttatggt aatcttccaa gggagtttag tttctgcatt 360
tcctggatat atgggttttc gtatattgcc tggctataat ttttagagct ctttacaaac 420
tcacaaagat atgggctca acaatgaatg aaattgtacg gtggatgtat tagtattaaa 480
cgtattagta ttaaattgtg tgacataaac tggctcttaa atataatcac aaattagtat 540
ctacaatgct tcaagcattg ttgtcctttt tgaaa 575

<210> 694
<211> 942
<212> DNA
<213> Unknown (H38g543 nucleotide)

<220>
<223> Synthetic construct

<400> 694
atggctgaag aaaatcatac catgaaaaat gagtttatcc tcacaggatt tacagatcac 60
cctgagctga agactctgct gtttgtggtg ttctttgcca tctatctgat caccgtggtg 120
gggaatatta gtttggtggc actgatattt acacaccgtc ggcttcacac accaatgtac 180

atctttctgg gaaatctggc tcttgtggat tcttgctgtg cctgtgctat tacccccaaa 240
atgttagaga acttcttttc tgagaacaaa aggatttccc tctatgaatg tgcagtacag 300
ttttattttc tttgcactgt ggaaactgca gactgctttc ttctggcagc aatggcctat 360
gaccgctatg tggccatatg caacccactg cagtaccaca tcatgatgtc caagaaactc 420
tgcattcaga tgaccacagg ggccttcata gctggaaacc tgcattccat gattcatgta 480
gggcttgtat ttaggttagt tttctgtgga tcgaatcaca tcaaccactt ttactgtgat 540
attcttccct tgtatagact ctcttgtgtt gatccttata tcaatgaact ggttctattc 600
atcttctcag gttcagttca agtctttacc ataggtagtg tcttaatatc ttatctctat 660
attcttctta ctattttcaa aatgaaatcc aaagagggaa gggccaaagc tttttctacc 720
tgtgcatccc acttttgtc agtttcatta ttctatggat ctcttttctt catgtacgtt 780
agaccaaatt tgcttgaaga aggggataaa gatataccag ctgcaatttt atttacaata 840
gtagttccct tactaaatcc tttcatttat agcctgagaa atagggaagt aataagtgtc 900
ttaagaaaaa ttctgatgaa agaaataatc tcaagaagat gg 942

<210> 695
<211> 948
<212> DNA
<213> Unknown (H38g544 nucleotide)

<220>
<223> Synthetic construct

<400> 695
atgcaaggag aaaacttcac catttggagc atttttttct tggagggatt ttcccagtac 60
ccagggttag aagtggttct cttcgtcttc agccttgtaa tgtatctgac aacgctcttg 120
ggcaacagca ctcttatttt gatcactatc ctagattcac gccttaaaac ccccatgtac 180
ttattccttg gaaatctctc tttcatggat atttgttaca catctgcctc tgttcctact 240
ttgctggtga acttgctgtc atcccagaaa accattatct ttctgggtg tgctgtacag 300
atgtatctgt ccccttgccat gggctccaca gagtgtgtgc tcctggccgt gatggcatat 360
gaccgttatg tggccatttg taacccgctg agatactcca tcatcatgaa caggtgcgtc 420
tgtgcacgga tggccacggt ctcctgggtg acgggttgcc tgaccgctct gctggaaacc 480
agttttgccc tgcagatacc cctctgtggg aatctcatcg atcacttcac gtgtgaaatt 540
ctggcggtgc taaagttagc ttgcacaagt tcactgctca tgaacaccat catgctggtg 600
gtcagcattc tcctcttgcc aattccaatg ctcttagttt gcatctctta catcttcatc 660
ctttccacta ttctgagaat cacctcagca gagggaagaa acaaggcttt ttctacctgt 720
ggtgcccatt tgactgtggt gattttgtat tatggggctg ccctctctat gtacctaaag 780
ccttcttcat caaatgcaca aaaaatagac aaaatcatct cgttgcttta cggagtgctt 840
acccctatgt tgaaccccat aatttacagt ttaagaaaca aggaagtcaa agatgctatg 900
aagaaattgc tgggcaaaat aacattgcat caaacacacg aacatctc 948

<210> 696
<211> 936
<212> DNA
<213> Unknown (H38g545 nucleotide)

<220>
<223> Synthetic construct

<400> 696
atgatgggta gaaggaataa cacaaatgtg gctgacttca tccttatggg actgacactt 60
tctgaagaga tccagatggc tctgtttatg ctatttctcc tgatatacct aattactatg 120
ctggggaatg tggggatgat attgataatc cgcctggacc tccagcttca cactcccatg 180
tattttttcc ttactcacct gtcatttatt gacctcagtt actcaactgt cgtcacacct 240
aaaaccttag cgaacttact gacttccaac tatatttcct ttacgggctg ctttgcccag 300
atgttctttt ttgccttctt gggtactgct gaatgttacc ttctctcctc aatggcccat 360
gatcgctatg cagcgatctg cagtcctcta cactacacag ttattatgtc caaaaggctc 420
tgcctcgctc tcatcactgg gccttatgtg attggcttta tagactcctt tgtcaacgtg 480
gtttccatga gcagattgca tttctacgac tcaaacgtaa ttcatcactt tttctgtgac 540
acttccccaa ttttagctct gtcctgcact gatacataca acaccgaaat cctgatattc 600
attattgttg gttccaccct gatggtgtcc cttttcacaa tatctgcatc ctatgtgttc 660
attctcttta ccatcctgaa aattaattcc acttcaggaa agcagaaagc tttctctact 720

```
tgcgtctctc atctcttggg agtcaccatc ttttatagca ctctgatttt tacttattta    780
aaaccaagaa agtcttattc cttgggaaga gatcaagtgg cttctgtttt ttatactatt    840
gtgattcccg tgctgaatcc actcatttat agtcttagaa acaaagaggt gaaaaatgct    900
gtcatcagag tcatgcagag aagacaggac tccagg                              936
```

<210> 697
<211> 634
<212> DNA
<213> Unknown (H38g546 nucleotide)

<220>
<223> Synthetic construct

<400> 697

```
acaatgttct ataaaattag tgctttgttc taatgttttg tatcacttta ttttagtaaa     60
aattgagtaa gcaaaaaata tactgggttc tgactatctt tggcttttta gaggcattca    120
ttgccatgaa taaattataa aagttatata gttctctaat atgtttatat tttataatat    180
gaatatttag ttctctaata tgtttatatt ttataatatg aatatttctg tacattattt    240
cctaaaatgt atttttttct tttgtatctg ttgtctttag ctattaattt ttgatagttt    300
ttctacccat cctcctcttc ccctacttta agaggcagat atctgtgcaa attcctagcc    360
atgctacact aatactacag cttcctgatg acacttttac attatcctca acttttgcct    420
ctcttattga ccctctgtat catcgatgct ctatggaaga ctgttcctta tgtacttaat    480
gctcagaaaa ttctcttgac acagacagga tggcctctgt cttctacaca gtagtcattc    540
ccatgttaaa cccattgatc tggagcccca ggaacaagga tgtgacattg ccctgaggaa    600
agtcatggtc aatagaaaac aggcattatt ttgc                                634
```

<210> 698
<211> 682
<212> DNA
<213> Unknown (H38g547 nucleotide)

<220>
<223> Synthetic construct

<400> 698

```
tgcatgttct ccttttattt taatttttac cattttttt cccacatgaa aggtcttgca      60
gtcacttaga aatgctgaga taaattgact ggtataaagt aaggtatctg attaatgaaa    120
tttactctaa aactaattgg ccttttcatg gactataaga ctatgcacaa ccacttcgta    180
ctcaaacatg caattctctt tccaatgttg tatgacccag tacccagctc ttcaaagcac    240
attttttttt cttggtagat ctcaggtctt ccttctgttg ctgatggcct agacaactat    300
agggccatct gaaagtcctt gcagtatttg gttgtcatga agcaatggct gtgtgttgtg    360
ctgctggtgg tgccctgggc tggaggattt ttgcacacag taattcaact tggccttatt    420
catgggctcc catcttatga ccccaatgtc attggtcgtt ttgtctgtga catggacccc    480
ttaatgaagc ttgtctgtga ctatacactc aacagatttg tctattttgc aggtcatgac    540
ttaaatacta ggttttatat atttcgttta tattcagact ggactgtttc cttttggtga    600
tttgactttg gtatcctttt gtaatttttt ccctagagga catgattcta taaatcttgt    660
tatacatagt tattatccct gt                                             682
```

<210> 699
<211> 897
<212> DNA
<213> Unknown (H38g548 nucleotide)

<220>
<223> Synthetic construct

<400> 699

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atggagccaa ggaaaaatgt gactgacttt gtcctcttgg gcttcacaca gaatccaaag     60
gagcagaaag tactttttgt tatgttcttg ctcttctaca ttttgaccat ggtgggcaac    120
ctgctcattg tagtgaccgt aactgtcagt gagaccctgg gctcaccaat gtccttcttt    180
cttgctggct taacatttat agatatcatt tattcttcat ccatttcccc cagattgatt    240
```

tcagacttgt tctttgggaa taattccata tccttccaat ctttcatggc ccagctcttt 300
atcgagcacc tttttggtgg gtcagaggtc tttctcctgt tggtgatggc ctatgaccgc 360
tatgtggcca tctgtaagcc cttgcattat ttggttatca tgagacaatg ggtgtgtgtt 420
ttgctgctgg tagtgtcctg ggttggagga tttctgcaat cagtatttca acttagcatt 480
atttatgggc tcccattctg tggccccaat gtcattgatc attttttctg tgacatgtat 540
cccttattga aactggcctg cactgacacc catgttattg gcctcttagt ggtggccaat 600
ggaggactgt cttgcactat tgcgtttctg ctcttactca tctcttatgg tgtcatcctg 660
cactctctaa agaaacttag tcagaaaggg aggcaaaaag cccactcaac ctgcagttcc 720
cacatcactg tggttgtctt cttctttgtt ccttgtattt ttatgtgtgc tagacctgct 780
aggaccttct ccattgacaa atcagtgagt gtgttttata cagtcataac cccaatgctg 840
aacccсttaa tctacactct gagaaattct gagatgacaa gtgctatgaa gaagctt 897

<210> 700
<211> 945
<212> DNA
<213> Unknown (H38g549 nucleotide)

<220>
<223> Synthetic construct

<400> 700
atgagtcctg atgggaacca cagtagtgat ccaacagagt tcgtcctggc agggctccca 60
aatctcaaca gcgcaagagt ggaattattt tctgtgtttc ttcttgtcta tctcctgaat 120
ctgacaggca atgtgttgat tgtgggggtg gtaagggctg atactcgact acagacccct 180
atgtacttct ttctgggtaa cctgtcctgc ctagagatac tgctcacttc tgtcatcatt 240
ccaaagatgc tgagcaattt cctctcaagg caacacacta tttcctttgc tgcatgtatc 300
acccaattct atttctactt ctttctcggg gcctccgagt tcttactgtt ggctgtcatg 360
tctgcggatc gctacctggc catctgtcat cctctgcgct acccccttgct catgagtggg 420
gctgtgtgct ttcgtgtggc cttggcctgc tgggtggggg gactcgtccc tgtgcttggt 480
cccacagtgg ctgtggcctt gcttcctttc tgtaagcagg gtgctgtggt acagcacttc 540
ttctgcgaca gtggcccact gctccgcctg gcttgcacca acaccaagaa gctggaggag 600
actgactttg tcctggcctc cctcgtcatt gtatcttcct tgctgatcac tgctgtgtcc 660
tacggcctca ttgtgctggc agtcctgagc atcccctctg cttcaggccg tcagaaggcc 720
ttctctacct gtacctccca cttgatagtg gtgaccctct tctatggaag tgccattttt 780
ctctatgtgc ggccatcgca gagtggttct gtggacacta actgggcagt gacagtaata 840
acgacatttg tgacaccact gttgaatcca ttcatctatg ccttacgtaa tgagcaagtc 900
aaggaagctt tgaaggacat gtttaggaag gtagtggcag gcgtt 945

<210> 701
<211> 772
<212> DNA
<213> Unknown (H38g550 nucleotide)

<220>
<223> Synthetic construct

<400> 701
gtactctgtg tcatattttg taaatgaaat catcatataa gtttattgag ttttttttgag 60
tacctaatga cttaataaaa aaaatatggg agcatatgta gtaccatgct tgtatcaata 120
cggataaagt atctggaagt ctttgctgag aatctttttg tgctgctgag attattccac 180
tgatgtggat ggtccatggc tgttatgtga ccgtctgtac tacatgacca tcgtgaatca 240
atataggtgt agccatctca ctggaatggc atgtactgaa agctttatcc aggcacagtt 300
tagatcctct ccccagtctg acttcctttc tatgacccca atgtcatagc tcattcatgt 360
gtgacttaaa cactttttttg aaactcctct gcatgggtac tactaataca attggtttct 420
ttgttgctgc caatggtggg ttcaactacc tgttaaacat cattttcttg atggtttctt 480
aagtggccat cctatgtact ttgaaaactc acagcttgga ggaaagatgc taaagttctc 540
tacctgcatc tctcacacca ccatggtcat cttatctttg agttctgtat atctgtgtat 600
ctgtgcccag tgacccttcc ccaatcaata aagcaatggc tgtgtttcat accgtgataa 660
atcctatgtt aaaaccttta gtctaaccct cagaaatgca gaggtgaaaa gtgctttgag 720
aaaggtctgg gtcaaaagat gacctgaaga gagaaataat ctaaacataa ga 772

<210> 702
<211> 954
<212> DNA
<213> Unknown (H38g551 nucleotide)

<220>
<223> Synthetic construct

<400> 702
atggaatggg aaaaccacac cattctggtg gaatttttc tgaagggact ttctggtcac 60
ccaagacttg agttactctt ttttgtgctc atcttcataa tgtatgtggt catccttctg 120
gggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180
ttctttctgg ggaacctctc cttcttggac atctgctaca ccaccacctc tattccctcc 240
acgctagtga gcttcctttc agaaagaaag accatttccc tttctggctg tgcagtgcag 300
atgttcctca gcttggccat ggggacaaca gagtgtgtgc ttctgggcgt gatggccttt 360
gaccgctatg tggctatctg caaccctctg agatatccca tcatcatgag taaggatgcc 420
tatgtaccca tggcagctgg gtcctggatc ataggagctg tcaattctgc agtacaaaca 480
gtgtttgtgg tacaattgcc tttctgcagg aataacatca tcaatcattt cacctgtgaa 540
attctagctg tcatgaaact ggcctgtgct gacatctcag gcaatgagtt catcctgctt 600
gtgaccacaa cattgttcct attgacacct ttgttattaa ttattgtctc ttacacgtta 660
atcattttga gcatcttcaa aattagctct tcggaggga gaagcaaacc ttcctctacc 720
tgctcagctc gtctgactgt ggtgataaca ttctgtggga ccatcttcct catgtacatg 780
aagcccaagt ctcaagagac acttaattca gatgacttgg atgccactga caaacttata 840
ttcatattct acagggtgat gactcccatg atgaatcctt taatctacag tcttagaaac 900
aaggatgtga aggaggcagt aaaacaccta ctgagaagaa aaaattttaa caag 954

<210> 703
<211> 999
<212> DNA
<213> Unknown (H38g552 nucleotide)

<220>
<223> Synthetic construct

<400> 703
atggaaagga ccaattggac agagatagag ttcattctgc aaggactttc agggtaccca 60
agagctgaaa aattcctttt cgtgatgtgc ttagtgatgt acctggtgat tctcctaggt 120
aatggcacct tgatcattct gacactcctg gatgctcgtc tccacacacc catgtacttc 180
ttccttggga atctttcctt cctagacatt tggtacacat cctcctccat cccctcaatg 240
ctgatacact tcctatcaga gaagaaaacc atctccttca ctagatgtgt gattcaaatg 300
tctgtctctt acactatggg atccaccgag tgtgtgcttc tagcagtgat ggcatatgac 360
cgttatgtag ccatctgcaa ccctctgaga tatcccatca tcatgggcaa ggcactttgt 420
attcagatgg tggctgtctc ttggggacta ggctttctca actcattgac agaaactgtt 480
cttgcaatac ggttaccctt ctgtggaaaa aaatgtcatt aatcattttg tttgtgaaat 540
attggccttt gtcaagctgg cttgcacaga tacttccttg aatgagatta ttataatgtt 600
gggcaatgta atatttttgt tttctccatt actgctgatt tgtatctcct acatctttat 660
cctttctact gtactaagaa tcaattcagc tgaaggaagg aaaaaggcct tttccacctg 720
ctcagcccac atgacagtgg tgattgtgtt ttatgggaca atcctcttca tgtacatgaa 780
ggcaaagtcc aaagactctg cttttgacaa actgattgcc ctgttctatg gcatagtcac 840
ccccatgctc aatcctatca tctatagcct gaggaataca gaggtgcatg gagctatgag 900
gaaattaatg agtagaccct ggttctggag gaaatgatga cacactgaca cctttgagtt 960
tatgcacaaa atacgctcac aagtttgaga caacacttt 999

<210> 704
<211> 966
<212> DNA
<213> Unknown (H38g553 nucleotide)

<220>
<223> Synthetic construct

<400> 704
cacacagagc catggaatct cacagatgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctctccctgt ccctgtccat gtgtctggtc 120
atggtgctga ggaacctgct cagcatcctg gctgtcagct ctgtctctcc cctccacacc 180
cccgtgtact tcttcctctc taaactgtgc tgggctgaca tcggtttcac cttggccacg 240
gttcccaaga tgattgtgga catgcagtcg catagcagag tcatctctca tgcgggctgt 300
ctgacgcaga tgtctttctt catccttttt gcatgtatag aaggcatgct cctgacagtg 360
atggcctatg actgctttgt agccatctgt cgccctctgc actacccagt catcgtgaat 420
cctcacctct gtgtctcctt ccttttggtg tccttttttcc ttagcatgtt ggattcccag 480
ctgcacagtt gaattgtgtt acaattcaca atcatcaaga atgtggaaat ctctaatttt 540
gtctgtgacc cctctcaact tctcaaactt gcctgttctg acagcgtcat caatagcata 600
ttcatatatt tcaatagtac tatgtttggt tttcttccca tttcagggat cctatggtct 660
tactgtaaaa tcgtcccctc cattctaagg atttcatcat cagatgggaa gtataaagcc 720
ttctccacat gtggctctca cctagcagtt gtttgctgat tttatagaac aggcattggc 780
atgtacctga cttcagctgt gtcaccaccc cccaggaatg gtgtggtggc gtcagcgatg 840
ttctctgtgg tcacccccat gctgaacctt ttcatctaca gcctgagaaa cagggacata 900
caaagtgccc tgcggaggct gctcagcaga acagtcgaat cttatgatct gttccatcct 960
ttttct 966

<210> 705
<211> 937
<212> DNA
<213> Unknown (H38g554 nucleotide)

<220>
<223> Synthetic construct

<400> 705
atggctgggg aaaaccatac tacactgcct gaattcctcc ttctgggatt ctctgacctc 60
aaggccctgc agggcccccct gttctgggtg gtgcttctgg tctacctggt caccttgctg 120
ggtaactccc tgatcatcct cctcacacag gtcagccctg ccctgcactc ccccatgtac 180
ttcttcctgc gccaactctc agtggtggag ctcttctaca ccactgacat cgtgcccagg 240
accctggcca atctgggctc cccgcatccc caggccatct ctttccaggg ctgtgcagcc 300
cagatgtacg tcttcattgt cctgggcatc tcggagtgct gcctgctcac ggccatggcc 360
tatgaccgat atgttgccat ctgccagccc ctacgctatt ccaccctctt gagcccacgg 420
gcctgcatgg ccatggtggg tacctcctgg ctcacaggca tcatcacggc caccacccat 480
gcctccctca tcttctctct acctttttcgc agccacccga tcatcccgca ctttctctgt 540
gacatcctgc cagtactgag gctggcaagt gctgggaagc acaggagcga gatctccgtg 600
atgacagcca ccatagtctt cattatgatc cccttctctc tgattgtcac ctcttacatc 660
cgcatcctgg gtgccatcct agcaatggcc tccacccaga gccgccgcaa ggtcttctcc 720
acctgctcct cccatctgct cggtggtctc tctcttcttt ggaacagcca gcatcaccta 780
catccggccg caggcaggct cctctgttac cacagaccgc gtcctcagtc tcttctacac 840
agtcatcaca cccatgctca accccatcat ctacaccctt cggaacaagg acgtgaggag 900
ggccctgcga cacttggtga agaggcagcg cccctca 937

<210> 706
<211> 930
<212> DNA
<213> Unknown (H38g555 nucleotide)

<220>
<223> Synthetic construct

<400> 706
atggctggca acaatttcac tgaggttacc gtcttcatcc tctctggatt tgcaaatcac 60
cctgaattac aagtcagtct tttcttgatg tttctcttca tttatctatt cactgttttg 120
ggaaacctgg gactgatcac gttaatcaga atggattctc agcttcacac ccctatgtac 180
tttttcctga gcaatttagc atttattgac atattttact cctctactgt aacacctaag 240
gcattggtga atttccaatc caatcggaga tccatctcct ttgttggctg ctttgttcaa 300
atgtactttt ttgttggatt ggtgtgttgt gagtgtttcc ttctgggatc aatggcctac 360
aatcgctaca tagcaatctg caatccctta ctgtattcag tagtcatgtc ccaaaaagtg 420

tccaactggc tgggagtaat gccatatgtg ataggcttca caagctcgct gatatctgtc 480
tgggtgataa gcagtttggc gttctgtgat tccagcatca atcatttttt ttgtgacacc 540
acagctcttt tagcactctc ctgtgtagat acattcggca cagaaatggt gagctttgtc 600
ttagctggat tcactcttct tagctctctc cttatcatca cagtcactta tatcatcatc 660
atctcagcca tcctgaggat ccagtcagca gcaggcaggc agaaggcctt ctccacctgc 720
gcatcccacc tcatggctgt aactatcttt tatgggtctc tgattttcac ctatttgcaa 780
cctgataaca catcatcgct gacccaggcg caggtggcat ctgtattcta tacgattgtc 840
attcccatgc tgaatccact catctacagt ctgaggaaca aagatgtgaa aaatgctctt 900
ctgagagtca tacatagaaa actttttcca 930

<210> 707
<211> 471
<212> DNA
<213> Unknown (H38g556 nucleotide)

<220>
<223> Synthetic construct

<400> 707
atctgtagcc ccttgctgta cagtgtcatc atatccaata aggcttgctt ttctctgatt 60
ttaggggtgt atataatagg cctggtttgt gcatcagttc atacaggctg tatgtttagg 120
gttcaattct gcaaatttga tttgattaac cattatttct gtgatcttct tcccctccta 180
aagctctctt gctctagtat ctatgtcaac aaactactta ttctatgtgt tggtgcattt 240
aacatccttg tccccagctt gaccatcctt tgctcttaca tctttattat tgccagcatc 300
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ttggcggttg taatcttttt tggatctgca gcattcatgt acttgcagcc atcttcaatc 420
agctccatgg accaggggaa agtatcctct gtgttttata ctattattgt g 471

<210> 708
<211> 529
<212> DNA
<213> Unknown (H38g557 nucleotide)

<220>
<223> Synthetic construct

<400> 708
ctggccccgt cctccagtct ggccttgggg acatggcggt ggcaatggca cagcatgact 60
gagcttgttt tgttggtgct ctcaggtttt ggttccgtcc ggggccttct gttttgggca 120
gtgctctgca aacatctggt gaccctgctg gacaactccc tgatcgtcgt cctcgccctg 180
gcagcctctg cctgcgctgg cccacgcact tcctcctgca ccacttctcc ttaggggagg 240
tcccacgcca cagcggcgga gtctcggatg caggccgatt cccttccccc gccgcactag 300
cccaccggta ggcggcttcc cgctgctggg tttcttcgcc ctccctggca tcgccgaatg 360
cgcttgcgca gggccatggc ctccgccgct gtgacgccat ctgccggccg ctgcattcta 420
ctacctgagg agccctagtc ttccgagccc gcttcgcctt caccttgccc ttctgcggcg 480
cagcaccacc cgctacttcc ggctggattc tcggcctgtg ctgagacct 529

<210> 709
<211> 942
<212> DNA
<213> Unknown (H38g558 nucleotide)

<220>
<223> Synthetic construct

<400> 709
atgaccagaa aaaattatac ctcactgact gagttcgtcc tattgggatt agcagacacg 60
ctggagctac agattatcct ctttttgttt tttcttgtga tttatacact tacagtactg 120
ggaaatctcg ggatgatcct cttaatcagg atcgattccc agcttcacac acccatgtat 180
ttcttcctgg ctaacctgtc ctttgtggac gtttgtaact caactaccat caccccaaag 240
atgctggcag atttattatc agagaagaaa accatctctt ttgctggctg cttcctacag 300

atgtacttct ttatctccct ggcgacaacc gaatgcatcc tctttgggtt aatggcctat 360
gacaggtatg cggccatatg tcgcccgctg ctttactcct tgatcatgtc caggaccgtc 420
tacctaaaaa tggcagccgg ggcttttgct gcagggttgc tgaacttcat ggtcaacaca 480
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agtcccccac ttttcaagct ctcttgttct gacacaatcc tgaaagaaag cataagttct 600
atttggctg gtgtgaatat tgtggggact ctgcttgtca tcctctcctc ctactcctac 660
gttctcttct ccattttttc tatgcattcg ggggaggggga ggcacagagc tttctccacg 720
tgtgcctctc acctgacagc cataattctg ttctatgcca cctgcatcta tacttacctg 780
agacctagtt ccagctactc cctgaatcag gacaaagtgg cttctgtgtt ctacacagtg 840
gtgattccca tgttgaatcc tctgatctac agcctcagga gtaaggaagt aaagaaggct 900
ttagcgaatg taattagcag gaaaaggacc tcttcctttc tg 942

<210> 710
<211> 941
<212> DNA
<213> Unknown (H38g559 nucleotide)

<220>
<223> Synthetic construct

<400> 710
atgaccagaa aaaattatac ctcactgact gagttcatcc tattgggatt agcagacacg 60
ctggagctac agattatcct ctttctgtta tttcttgtga tttacacact taccgtactg 120
ggaaatatcg ggatgatcct cttaatcagg atcgattccc ggcttcacac acccatgtat 180
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atgctggcag atttattatc agagaagaaa accatctctt ttgctggctg cttcctacag 300
atgtacttct ttatcgccct ggcgacaacc gaatgcatcc tctttgggtt aatggcctat 360
gaccggtatg tgaccatatg tcgcccgctg ctttactcct tgatcatgtc caggacagtc 420
tgcctaaaaa tggcagccgg ggcttttgct gcagggttgc tgaactccat ggtcaacact 480
agctatgtca gcagcttgtc attctgtggc tccaatgtca tccatcactt cttctgcaac 540
agtcccccac tttttaagct ttcttgttct gacacacact tgaaggaaag catattttcc 600
acttttgctg gtgtgaataa ggtcggggct ctgcttgtca tcctctcctc ctattcctac 660
gttctcttct ccattttttc tatgcattca ggggaggggga ggcacagagc tttctccacg 720
tgtgcctctc acctgacagc cataatcctc ttctacacca cctccatcta tacctacctg 780
agacctagtt ccagctactc cctgatcagg acaaagtggt ttctgtgttc tacacagtgg 840
tgatccccat attgaatcct ctgatctaca gcctcaggaa taaggaagta aagaaggctt 900
tagcgaatgt aattagcagg aaaaggatcc cttcatttct g 941

<210> 711
<211> 939
<212> DNA
<213> Unknown (H38g560 nucleotide)

<220>
<223> Synthetic construct

<400> 711
atgagtgggg agaatgtcac caaggtcagc accttcatcc tggtgggcct ccccacggcc 60
ccagggctgc agtacctgct cttcctcctc ttcctgctca cctacctctt tgtcctggtg 120
gagaacctgg ccatcatcct catcgtctgg agcagcacct ccctccacag gcccatgtac 180
tactttctga gctccatgtc tttcctggag atctggtacg tgtctgacat cacccccaag 240
atgctggagg gcttcctcct ccagcagaaa cgcatctctt tcgtcgggtg catgacgcag 300
ctctacttct tcagctccct ggtgtgcacc gagtgtgtgc ttctgcctcc atggcctacg 360
accgctacgt ggccatctgc cacccgctgc gctaccacgt ccttgtgacc gccgggctgt 420
gctccagctg gtgggcttct cctttgtgag tgcttctcca tctccatgat caaggtctgt 480
tttatctcca gcgtcacgtt ctgtggctcc aacgtcttga acccacttct tctgtgacat 540
ttcccccatc ctcaagctgg cctgcacgga cttctccact gcagagctgg tgatttcatc 600
ctggccttca tcatcctggt gtttccgctc ctggccacca tactgtcata ttggcacatc 660
accctggctg tcctgcgcat cccctcggcc accggctgct ggagagcctt ctctacctgc 720
gcctctcacc tcaccgtggt caccgtcttc tatacagcct tgcttttcat gtatgtccgg 780
ccccaagcca ttgattccca gagctccaac aagctcatct ctgccgtgta cactgttgtc 840

acgccaataa ttaacccttt gatttactgc ctgaggaaca aggaatttaa ggacgccttg 900
aaaaaggcct tgggcttggg tcaaacttca cactaagac 939

<210> 712
<211> 642
<212> DNA
<213> Unknown (H38g561 nucleotide)

<220>
<223> Synthetic construct

<400> 712
ctggctgacc tctgtttctc taccaacata gttcctcagg cactagtcca cctgctttcc 60
agaaagaagg tcattgtatt cacactgtgc gcagctcgac ttctctttct cctcattggg 120
gggtgtaccc agtgcgccct tcttggagtg atgtcctatg atcgctatgt tgcaatctgc 180
aatcctctgc gttaccctaa catcatgacc tggaaagtgt gtgtccagct ggcaacagca 240
ccatggacca gtggtattct ggtgtctgtg gtagacacca ccttcacact gaggctaccc 300
taccgaggca gtaacagcat tgctcatttc tggtgtgagg cccctgcact attgatctta 360
gcatccacag acacccatgc atcagagatg gccatttttc ttacgggggt tgtgattctc 420
ctcatacctg tttttctgat tctggtatcc tatggccgta tcatagtaac tgtggtcaag 480
atgaagtcaa ctgtggggag tctcaaggca ttttctacct gtggctccca cctcatggtg 540
gtcatacttt tttatggatc agcaattatc acttacatga cacccaagtc ttccaaacag 600
caggaaaaat cggtgtctgt tttctatcca atagtgactc cc 642

<210> 713
<211> 948
<212> DNA
<213> Unknown (H38g562 nucleotide)

<220>
<223> Synthetic construct

<400> 713
atgttggaga gtaattacac catgccaact gagttcctat ttgttggatt cacagattat 60
ctacctctca gagtcacact gttcttggta ttccttctgg tatatacatt aactatggtc 120
ggaaatatac tcttaataat tctagttaat attaattcaa gccttcaaat tcccatgtat 180
tattttctta gcaacttatc tttcttagac atcagctgtt ctacagcaat cactcctaaa 240
atgctggcaa acttcttggc atccaggaaa agcatctctc cttatgggtg tgcactacaa 300
atgtttttct tcgcttcttt tgctgatgct gagtgcctta tcctggcagc aatggcttat 360
gaccgctatg cagccatctg caacccactg ctctatacta cactgatgtc taggagagtc 420
tgtgtctgct tcattgtgtt ggcatatttc agtggaagta caacatcact ggtccatgtg 480
tgcctcacat tcaggctgtc attttgtggc tccaatatcg tcaatcattt tttctgtgat 540
atcccacctc ttctggcttt atcatgtaca gacactcaga tcaaccagct tctgctcttt 600
gctttgtgca gcttcatcca gaccagcact tttgtggtaa tatttatttc ttacttctgc 660
atcctcatca ctgtgttgag catcaagtcc tcaggtggca gaagcaaaac attctccact 720
tgtgcttccc acctcatagc agtcacctta ttctatggag cgctcctgtt tatgtactta 780
cagcccacca ctagctattc cctagacact gataaggtgg tggcagtgtt ttatactgtt 840
gtatttccca tgtttaatcc aataatttat agtttcagaa acaaggatgt gaaaaatgct 900
ctcaaaaagc tattagaaag aattggatat tcaaatgaat ggtattta 948

<210> 714
<211> 939
<212> DNA
<213> Unknown (H38g563 nucleotide)

<220>
<223> Synthetic construct

<400> 714
atgtcaaccc acagaaatgg aaatctctca gtggttcctt tgtgggagag catgctgaag 60
ggacttgagg gtggcctgga gaaccaggcc ctgctctttg ctgtgttccc aggtctatac 120

atggtgacca tcccgggaaa cctcaccatg accatggtca tcatcctgga cacgcacctg 180
cacttcccag tgaacttctt cctcaggagc ctcccccttc ctggaccttg gccatgcctc 240
catcacccca atgccctggt taacttctct tcctcgtcca aggtcgtcac ctttgcaggc 300
tgtgctgccc ggttcttttt ctccttgctg tctaccactg agactttcct gctggccgtg 360
atggcctatg actgcttcgt ggccatctgt agtctggtgt ggtgcccagt gaccacgtgc 420
ctctcgatct gcatcatcct gggaccaggc acctactgca gggtctgcct cagctccatc 480
gtgcagaccg gcctcatgtt ccagctccct tctgcaggga ccaaccacat tgaccactct 540
gtgacatgcc ccagctgctc cggctggcct gtgcatgcct ggccctcaat gagctgacca 600
agttcagcct ttgtgggctc atgatgggaa cgccactctt gtggtcctcg tctcctttgg 660
ctgtgtcaca gtgaccatcc tgaggacacc ctccgcagcc agtgacataa ggtcttcacc 720
tgtagctccc acgtgatgac cgtgtccctg tttgatggga ctgtgtttgt cacatatgcc 780
cagccaggga ctatggagtc catggagcag ggcaaggtgg tgtctgtctt ctacagcctg 840
gtcatcccga tgcttggccc cttcatctac agcctacgaa acaaggacat gaaggaggcc 900
ctgcggaggc tgggccagag acaagcactc atgggaagg 939

<210> 715
<211> 756
<212> DNA
<213> Unknown (H38g564 nucleotide)

<220>
<223> Synthetic construct

<400> 715
atgtacttct tccttggcaa cctctccttt tgtgatatct gctactctac tgtctttgct 60
cctaagatgc tagtcaattt cctatcaaaa cataagtcca gtacattttc tggctgtgtt 120
ctacagagtt tccctttttgc agtatatgta accacaaagg acattctcct gtccatgatg 180
gcttatgacc attacgtggc catagctaat cccttgttgt atacagtcat tatggcccaa 240
aaagtttgta ttcagatggt ccttgcttct tacttaggtg ggctcattaa ttccctgaca 300
cacacaatag gtttgctcaa attagacttc tgtggtccta atattgtgaa tcattatttc 360
tgtgatgttc ctcctcttct gaggctttct tgctctgatg ctcatatcaa tgaaatgctg 420
cccttggtct tctctgggct cattgcaatg ttcactttca ttgtcattat ggtgtcttat 480
atctgcatca tcattgccat ccagagaatc catgcagctg agggaaggta caaagccttc 540
tccacttgtg tctcccacct aaccacggtg accttattct atgggtctgt ttcttttagt 600
tatatccagc caagttctca gtattccttg gaacaggaga aggtcttggc tgtgttttat 660
acactggtga tccccatgct aaacccactt atttatagcc tgagaaataa ggatgtaaaa 720
gatgcagcca aaaggttgat atggtggggg gaaaaa 756

<210> 716
<211> 954
<212> DNA
<213> Unknown (H38g565 nucleotide)

<220>
<223> Synthetic construct

<400> 716
atgagtgggg agaatgtcac cagggtcggc accttcatcc tggtgggctt ccccacggcc 60
ccagggctgc agtacctgct cttcctcctc ttcctgctca cctacctctt tgtcctggtg 120
gagaacctgg ccatcatcct caccgtctgg agcagcacct ccctccacag gcccatgtac 180
tactttctga gctccatgtc tttcctagag atctggtacg tgtctgacat cacccccaag 240
atgctggagg gcttcctcct ccagcagaaa cgcatctctt tcgtcgggtg catgacgcag 300
ctctacttct tcagctccct ggtgtgcacc gagtgtgtgc ttctggcctc catggcctac 360
gaccgctacg tggccatctg ccacccgctg cgctaccacg tccttgtgac cccgggctgt 420
gcctccagct ggtgggcttc tcctttgtga gtggcttcac catctccatg atcaaggtct 480
gttttatctc cagcgtcacg ttctgtggct ccaacgtctt gaaccacttc ttctgtgaca 540
tttcccccat cctcaagctg gcctgcacgg acttctccac tgcagagctg gtggatttca 600
ttctggcctt catcatcctg gtgtttccac tcctggccac catgctgtca tatgcgcaca 660
tcaccctggc tgtcctgcgc atcccctcgc caccggctgc tggagagcct tcttcacctg 720
cgcctctcac ctcaccgtgg tcaccgtctt ctatacagcc ttgcttttca tgtatgtccg 780
ccccaggcca ttgattcccg gagctccaac aagctcatct ctgttttgta cacagttatc 840

acccccatct tgaacccctt gatatactgc ctgaggaata aggaatttaa gaatgccttg 900
aaaaacagtc ggcttgacga ctgcgccgta gaggggaggc tttctagtct tctg 954

<210> 717
<211> 960
<212> DNA
<213> Unknown (H38g566 nucleotide)

<220>
<223> Synthetic construct

<400> 717
atggctgatg ttaattttac attggttact gagtttatcc ttttggaact gacagatcgt 60
gctgaactga agatggtcct cttcgtgttg ttcctgctga tctacaccat ttccctggtg 120
ggaaatatag gaatgctctt tctaatctat gtaactccca aactccacac acccatgtat 180
tatttcctca gctgtctgtc atttgttgat gcctgctatt catcagtttt tgcacccaga 240
atgctgctga acttctttgt tgagcgggag acaatcttat tctctgcatg tattgtgcag 300
tatttttat tcgtgtctct ccttaccact gagggcttct tgctggccac aatggcttac 360
gaccgttaca tggccattgt gaaccccttta ctttatacag tagctatgac taaaatagtt 420
tgtattgtgc tcgcatttgg gtcatgtatg ggaggtttaa tcaactcatt gacacataca 480
attggcttgg tgaaactgtc tttctgtggg ccaaatgtca tcagtcactt cttctgtgat 540
cttccccccac tgttgaagct gtcatgttct gagacatcta tgaatgaatt gttgcttttg 600
atcttctctg gcattattgc cacgctcact tttttgactg tggtgatctc ctacatcttc 660
attgttgctg ctatcctgag gatccgctaa gcagcaggta gacgtaaagc cttctccacc 720
tgcacctctc acctgattac cgtgacctta ttctatggat cgataagctt tagttacatt 780
cagccaaact cccagtattc cctagaacaa gaaaaggtgg tgtctgtatt ttatacccctg 840
gtggttccta tgttaaaccc attgatttac agcctaagga acaaggaagt gaaggaagct 900
gtgaaaaggg ctatagaaat gaaacatttt ccttgttaat ttcatatttc catatccaaa 960

<210> 718
<211> 938
<212> DNA
<213> Unknown (H38g567 nucleotide)

<220>
<223> Synthetic construct

<400> 718
atgttgggga attactctag cgccactgaa ttttttctct taggcttccc tggctcccaa 60
gaagtacgcc gtatcctttt tgtgaacttc ttcttcttgt acgcagtgac agtgatggga 120
aacacggtca tcatcgtcac tgtctgtgtt gataaacatc tgcagtcccc catgtatttt 180
ttcctgggcc acctctgtgt cctggagatc ctgatcacat ccaccgctgc ccctttttatg 240
ctgggggggtt gctgcttcca agcacccaga tcatgtcttt gacagcctgt gctgcacagc 300
tatatacctt tctttgggta cctcggagtt ggcattaatg ggagtgatgg ctgtggacca 360
ttatgtggct gtgtgtaacc ctttgaggta caacatcatt atgaacagca gcacatgtgt 420
ctggatggtc attgtatcat gggtgtttgg gttccttttt caaatctggc cagtttatgc 480
cacttttcag cttactttct gcaaatcaaa tgtgttagat catttttact gtgactgagg 540
acaattgctc aaggtatcct gtgaggacac tcttttcaca gagtttattc tttttctaat 600
ggctgttttc attatcattg gttcttttga tccctacgat tgtctcctac acctacatca 660
tctccaccat cctcaagatc ccgttagcct ctggctggag gaaatccttt tccacttgtg 720
cctcccactt cacctgtgtt gtgatcggct acagcagctg cttgtttctc tacacgaaac 780
ccaagcaaac acaggcagcc aagtataacc ggatagcgtc actgctggtt ttagtggtga 840
ccccttttct gaaccctttc atcttcaccc tgaggaatga caaattcata caggcctttg 900
gagatggcat gaaacactgc tatcaactcc tcagaatt 938

<210> 719
<211> 942
<212> DNA
<213> Unknown (H38g568 nucleotide)

<220>

<223> Synthetic construct

<400> 719
atataaatgg ctgacagaaa tgtcactgtg ataactgaat tcatcctcct ggggttgact 60
gataaccctg aaatgaatgt tgtcctttct gtgctctttc tattaatcta tctcattact 120
gtcttgggca acttttggat tatcataata attctggcta gtgcccaact ccattcaccc 180
atgtactttt tccttagcca gttggctttc ttagatttct gctattcttc agtcttgatt 240
cctaaaatgt tggtgaatta catagcagga cagaaagtca tctcttatca cggttgcctc 300
cttcagtatt cctttgtcag cttgttcctg actactgaat gcttcctcct ggctgccatg 360
gcatgtgatc ggtatctcgc tgtttgccac ccacttcact acaaaggtct catgactcct 420
actttctgaa tctatttggt gactgtttct tacctgctgg gctctgtaaa ctcccctcacc 480
cacctgagta gcttactcag tttgtctttc tgtgggtcca atgttatcaa ccgttatttc 540
tgtgacattc cattgctctt ccaactctcc tgttccaaca cccaacacag taagatttta 600
tttactgtcc tttctggagc aacatcagtg actacctttt tgatagtggt tagttcctat 660
ctggtaatcc tactcattgt cctgaagata cattccacca ggggcagaaa taaagccata 720
tccacatgtg cctcccacct aatggtagtg actctcttct acagaacagt gatatttact 780
tatctgggag ccaaccctgg atactcacag gatagaccca aaattctgcc tgtggagtgc 840
acacttttgt tgtcaatact aaatcttcta atatatagcg tgagaaacag agaagtcaaa 900
gaagccataa aaataattat taagagaaaa atacttcctc ag 942

<210> 720
<211> 942
<212> DNA
<213> Unknown (H38g569 nucleotide)

<220>
<223> Synthetic construct

<400> 720
atgttgatga attactctag tgccactgaa ttttatctcc ttggcttccc tggctctgaa 60
gaactacatc atatcctttt tgctatattc ttctttttct acttggtgac attaatggga 120
aacacagtca tcatcatgat tgtctgtgtg gataaacgtc tgcagtcccc catgtatttc 180
ttcctcggcc acctctctgc cctggagatc ctggtcacaa ccataatcgt ccccgtgatg 240
ctttggggat tgctgctccc tgggatgcag acaatatatt tgtctgcctg tgttgtccag 300
ctcttcttgt accttgctgt ggggacaaca gagttcgcat tacttggagc aatggctgtg 360
gaccgttatg tggctgtctg taaccctctg aggtacaaca tcattatgaa cagacacacc 420
tgcaactttg tggttcttgt gtcatgggtg tttgggtttc tttttcaaat ctggccggtc 480
tatgtcatgt ttcagcttac ttactgcaaa tcaaatgtgg tgaacaattt tttttgtgac 540
cgagggcaat tgctcaaact atcctgcaat aatactcttt tcacggagtt tatcctcttc 600
ttaatggctg tttttgttct ctttggttct ttgatcccta caattgtctc caacgcctac 660
atcatctcca ccattctcaa gatcccgtca tcctctggcc ggaggaaatc cttctccact 720
tgtgcctccc acttcacctg tgttgtgatt ggctacggca gctgcttgtt tctctacgtg 780
aaacccaagc aaacgcaggc agctgattac aattgggtag tttccctgat ggtttcagta 840
gtaactcctt tcctcaatcc tttcatcttc accctccgga atgataaagt catagaggcc 900
cttcgggatg gggtgaaacg ctgctgtcaa ctattcagga at 942

<210> 721
<211> 936
<212> DNA
<213> Unknown (H38g570 nucleotide)

<220>
<223> Synthetic construct

<400> 721
atgatgggta gaaggaatga cacaaatgtg gctgacttca tccttacggg actgtcagac 60
tctgaagagg tccagatggc tctgtttatg ctatttctcc tcatatacct aattactatg 120
ctggggaatg tggggatgct attgataatc cgcctggacc tccagcttca cactcccatg 180
tattttttcc ttactcacct gtcatttatt gacctcagtt actcaactgt cgtcacacct 240
aaaaccttag cgaacttact gacttccaac tatatttcct tcacgggctg ctttgcccag 300
atgttctgtt ttgtcttctt gggtactgct gaatgttatc ttctctcctc aatggcctat 360

gatcgctatg cagcgatctg cagtcctcta cactacacag ttattatgcc caaaaggctc 420
tgcctcgctc tcatcactgg gccttatgtg attggcttta tggactcctt tgtcaatgtg 480
gtttccatga gcagattgca tttctgtgac tcaaacataa ttcatcactt tttctgtgac 540
acttccccaa ttttagctct gtcctgcact gacacagaca acactgaaat gctgatattc 600
attatcgctg gttccaccct gatggtgtcc cttatcacaa tatctgcatc ctatgtgtcc 660
attctctcta ccatcctgaa aattaattcc acttcaggaa agcagaaagc tttctctact 720
tgcgtctctc atctcttggg agtcaccatc ttctatggaa ctatgatttt tacttactta 780
aagccaagaa agtcttattc cttgggaaga gatcaagtgg ctcctgtgtt ttatactatt 840
gtgattccca tgctgaatcc actcatttat agtcttagaa acagagaagt gaaaaatgct 900
ctcattagag tcatgcagag aagacaggac tccagg 936

<210> 722
<211> 730
<212> DNA
<213> Unknown (H38g571 nucleotide)

<220>
<223> Synthetic construct

<400> 722
atgtcatgat gaattttctg cctgccaaaa ataatcatta ctttattgca gtaggagtgg 60
gatgctttaa atttagagac acgggttttt ctggaagagg acttcccatg tggattcagc 120
ttgtggattg tacgtcaatt gtcttttttc ttggaaataa attaatttgc tcatttaaaa 180
aaatgatgca ggaagcatac gagtactttt tctctgagca acttggcttt ttaagtttct 240
gttatgcttc agtcattaca tccaaaatgt ttggaagttt cttgtacaaa caaaaaaaat 300
taaccttcaa tgcacatagg ctgctctctc accttcatga ccaccgagtg cttgctctag 360
ctttcatggc ctgtgatcaa tacctggtca tttgtaatcc tcctttgtat atggtcacca 420
tgtccccccc gcaaggagtc tgcattcagc ttatgcctgc ctcctatagc tatagcttcc 480
tgatgacact ttcacattat cctcagcctt tgtctccctt attgcccctc tgtatcattg 540
atgttcaatg gaagcctgtt ccttatgtac ttaatgctca gaaaattctc ttgacacaga 600
caggatggcc tctgtcttct acacagtagt cattcccatg ttgagccctt tgatctggag 660
cctcaggaac aaggatgtga aagatgccct gaggaaagtc attgtcaaca gaaaccaggc 720
attattttgt 730

<210> 723
<211> 936
<212> DNA
<213> Unknown (H38g572 nucleotide)

<220>
<223> Synthetic construct

<400> 723
atggctcctg aaaatttcac cagggtcact gagtttattc tcacaggtgt ctctagctgt 60
ccagagctcc agattcccct cttcctggtc ttcctagtgc tctatgtgct gaccatggca 120
gggaacctgg gcatcatcac cctcaccagt gttgactctc gacttcaaac ccccatgtac 180
tttttcctga gacatctagc tatcatcaat cttggcaact ctactgtcat tgcccctaaa 240
atgctgatga actttttagt aaagaagaaa actacctcat tctatgaatg tgccacccaa 300
ctgggagggt tcttgttctt tattgtatcg gaggtaatga tgctggctgt gatggcctat 360
gaccgctatg tggccatttg taaccctctg ctctacatgg tggtggtgtc tcggcggctc 420
tgcctcctgc tggtgtccct cacgtacctc tatggctttt ctacagctat tgtggtttca 480
ccttgtatat tctctgtgtc ttattgctct tctaatataa tcaatcattt ttactgtgat 540
attgcacctc tgttagcatt atcttgctct gatacttaca taccagaaac aatagtcttt 600
atatctgcag caacaaattt gtttttttcc atgattacag ttctagtatc ttatttcaat 660
attgttttgt ccattctaag gatacgttca ccagaaggaa ggaaaaaagc cttttccacc 720
tgcgcttcgc atatgatagc agtcacggtt ttctatggga caatgctatt tatgtatttg 780
cagccccaaa ccaaccactc actggatact gataagatgg cttctgtgtt ttacacattg 840
gtgattccta tgctgaatcc cttgatctac agcctgagga ataatgatgt aaatgttgcc 900
ttaaagaaat tcatggaaaa tccatgttac tccttt 936

<210> 724

<211> 481
<212> DNA
<213> Unknown (H38g573 nucleotide)

<220>
<223> Synthetic construct

<400> 724
atatgtggga gtcacagtgg tgttactgaa ttttgtctct taggcttccc tggctcccag 60
taagtatgcc atttgttacc ttcttccttt gtcagtgatt gtaataagaa attatgtaat 120
catcatagta tgtgttgaga aatgcctgct gttcctccta tatttattct atggtgacct 180
ctctgtcatg gaaatcctta tcacatatac tgctgttccc ttgatgctca ggggttgtta 240
ctttccatga ttcaaacaat acctttaatg acatgtgctg tccaactcta tatgaacttt 300
tttgggggta cacaaaattt gcattactgg gagtgatgac tgtgaaccat tatgtggctc 360
tctgtaactc tttgaagtaa aacatcatta tgagcagaca cactgcatct ggctggtaat 420
tgtattattg attgggttcc tttctgaaat ctggtcagtc tatgccacat ttcagctccc 480
t 481

<210> 725
<211> 971
<212> DNA
<213> Unknown (H38g574 nucleotide)

<220>
<223> Synthetic construct

<400> 725
cacacagagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagccggt cctcgctttg ctgtccctgt ccctgtccat gtatctggtc 120
acggtgctga ggaacctcct cagtatcctg gctgtcagct ctgactcccc cctccacacc 180
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gttcccaaga tgattgtgga catgcagtcg catagcagag tcatctctca tgagggctgc 300
ctgacacaga tgtttttctt ggtccttttt gcatgtatag aaggcatgat cctgactgtg 360
atggcctatg actgctttgt agccatctgt cgccctctga attacccagt catcgtgaat 420
cctcacctct gtgtcttctt cattttgatg tcctttttcc ttagcctgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcaca atcatcaaga atgtggaaat ctctaatttt 540
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ttcacatatt tccatagtac tatgtttgct ttttcttccca tttcagcaat ccttttatct 660
tactataaaa tcgtcacctc cattctcagg atttcatctt cagatgggaa gtataaagcc 720
ttctccacct gtgactctca cctagcagtt gtttgctgat tttatggaac agacattggg 780
atgtacctga cttcagctgt gtcaccacct cccaggaatg gtgtagtggc gtcaatgatg 840
tacgctgtgg tcacccccat gctgaacctt ttcatctaca gcctgagaaa cagggacata 900
caaagtgcct tgcggaggct gcgcagcaga acagtcgaat ctcatgatct gttccatcct 960
ttttcttgtg t 971

<210> 726
<211> 960
<212> DNA
<213> Unknown (H38g575 nucleotide)

<220>
<223> Synthetic construct

<400> 726
cacacaaagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagcccat cctggctggg ctgtccctgt ccatgtatct ggtcacggtg 120
ctgaggaacc tgctcatcat cctggctgtc agctctgact cccacctcca cactcccatg 180
tgcttcttcc tctccaacct gtgctgggct gacatcggtt tcacctcggc cacggttcct 240
aagatgattg tggacatgca gtcgcatagc agagtcatct cttatgaggg ctgcctgaca 300
aggatgtctt tcttggtcct tttgcatgt acagaagaca tgcttctgac tgtgatggcc 360
tatgactgct ttgtagccat ctgtcgccct ctgcactacc cagtcatcgt gaatcctcac 420

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ctctgtgtct ttttcatttt ggtgtccttt ttccttagcc tgttggattc ccagctgcac      480
agttaggttg tattacaatt caccttcttc aataatgtgg aaatctctaa ttttgtctgt      540
gagccatctc aacttgtcaa ccttgccagt tctgacagcg tcgtcaatag catattcata      600
tatttcgata gtactatgtt tggtttttctt cccattttag gggtcctttt gtctcactat      660
aaaattgtcc cctccattct aaggatttca tcgtcagatg ggaagtataa agtcttcgct      720
acctgtggct ctcacctggc agttgtttgc tgatttgatg gaacaggcat tgacatgtac      780
ctgacttcag ctgtgtcacc accccacagg aatggtgtgg tggcatcagt gatgtatgct      840
gttttcaccc ccatgctgaa ccctttcatc tacagcctga gaaacaggga catacaaagt      900
gccctgcgga ggctgctcag cagaacagtc gaatctcatg atctgttcca tcctttttct      960
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<210> 727
<211> 806
<212> DNA
<213> Unknown (H38g576 nucleotide)

<220>
<223> Synthetic construct

<400> 727

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gtctccctca tcacctacct gatcacagtg atgagcaacc tgggcatgaa tattttgacc       60
aaactagact cccacctata cacacctgtt gtatattttt taatcaaaca catatttttc      120
attgattttt acaattgtat tgttatttac accaataaaa tgttaaattt tgttgtggat      180
cagaataaca tttcctatta tgcatgtgcc acacatatga ctttcttatg ttcattatca      240
ctgaactttt aatcttggta agcatggcct atgattgcta tgtggtgaac tccaaccctt      300
tgttttacat tgttatcatg tgtctgtgac tgtaacatgt gctgatgagc attccatacc      360
tctgtaatac atttcaatct ctaattatca caatgacctt tttttgacct tctgtagctt      420
tatcatcagt catttctatt gttatgatgt tctcttcttc catatgctat gctcaaatgc      480
acaggaaaga gaattgttga tcacactgct tacagcattt aatttgatcc ctacctcctg      540
gtattgctag tgttaaacat tctgattttg ttagccatat gttgaatgca ttctgcactg      600
ggcaggaaaa aagctttctc catgtgtggt tctcatctta caatggtggt tatgttctat      660
ggatctctac tttttgatat ggataaatgg cctccttgtt ctacacttta atgatcctca      720
ggtttaacct cttgatctac agctttagca acttaggggt taaaaatgtc ttttatagag      780
tctttaagaa ttagtgcaaa ctttgt                                           806
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<210> 728
<211> 384
<212> DNA
<213> Unknown (H38g577 nucleotide)

<220>
<223> Synthetic construct

<400> 728

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atgggaggca agcagccctg ggtcacagaa ttcatcctgg tgggattcca gctctgtgca       60
gagatggaga tctttctctc ttgcatcttc tcgcgatttt atgccttcag tctactgagg      120
aatggcatga acatgggact cacctatctg gatgacagag acgacagact acacaccctc      180
atatacattt tcctctcaca cctggccatc aatgacatgt actatgcttc caacaatgtt      240
ccaaagaggc aggtgaacca aatgaaccag aaaaaaaaaa actttgttct atggataaag      300
cagatatttt tgtatttggc ttttgctcac acagagtgcc taatttaggc aatgatgtcc      360
tgtaatagat atgtggcaat ctgc                                             384
```

<210> 729
<211> 921
<212> DNA
<213> Unknown (H38g578 nucleotide)

<220>
<223> Synthetic construct

<400> 729

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atgggccaac acaatctaac agtgctaact gaattcattc tgatggaact cacaaggcgg       60
```

cctgagctgc agattcccct ttttggagtc ttcctcgtca tctacctaat cacagtggtg 120
ggcaacctaa ctatgatcat tttgaccaaa ctggactccc acttacatac acctatgtac 180
ttttctatca gacatttggc ttctgttgat cttggtaatt ctactgtcat ttgtcccaag 240
gtgctggcaa atttgttgt ggatcgaaat actatttcct attatgcatg tgctgcacag 300
ctggcattct tccttatgtt cattatcagt gaatttttca tcctgtcagc catggcctat 360
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tgtcatgtac tggtgggcat tcaatatctc tacagcacat ttcaggctct gatgttcact 480
attaagattt ttacattgac cttctgtggc tctaatgtca tcagtcattt ttactgtgat 540
gatgttcctt tgctacctat gctttgctca aatgcacagg aaatagaatt gttgagcata 600
ctattttctg tatttaattt gatctcctcc tttctgatag tcttagtgtc ctacatgttg 660
attttgttag ctatatgtca aatgcattct gcagagggca ggaaaaaggc tttctccaca 720
tgtggttccc atttgacagt ggtggttgtg ttctatgggt ctctactctt catgtacatg 780
cagcccaatt ccactcactt ctttgatact gataaaatgg cttctgtgtt ttacacttta 840
gtaatcccca tgcttaaccc tttgatttac agcttaagaa acgaagaggt gaaaaatgcc 900
ttctataagc tctttgagaa t 921

<210> 730
<211> 654
<212> DNA
<213> Unknown (H38g579 nucleotide)

<220>
<223> Synthetic construct

<400> 730
ttgcctgaca tcagtttcac ctccaccaca gtccccaaga tgattgtgga catccaatct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgtcattttt 120
ggaggcatgg aagagaggca tgctcctgag tgtgatggcc tatgactggt ttgtagccat 180
ctgtcaccct ctatatcatt cagccatcat gaacccgtgt ttctgtggct tcctagtttt 240
gttgtctttt tttttctcag tcttttagat gcccagctgc acaacttgat tgccttacaa 300
gtgacctgct tcaaggatgt ggaaattcct aatttcttct gtgacccttc tcaactcccc 360
catcttgcat gttgtgacac cttcaccatt aacataatca tgtatttccc tgccgccata 420
tttggttttc ttcccatctc ggggaccctt ttctcttact ctaaaattgt ttcctccatt 480
ctgagggttt catcgtcagg tgggaggtat aaagccctct ccacctgtgg gtctcacgtg 540
tcagttgttt gctgagttta tggaacaggc gttggagggt acctcagttc ggatgtgtca 600
ttttccccca gaaagggtgc agtggcctca gtgatgtacg cggttgtcac cccc 654

<210> 731
<211> 683
<212> DNA
<213> Unknown (H38g580 nucleotide)

<220>
<223> Synthetic construct

<400> 731
atgtacttct tcttctccaa cctgtccttg cctgacgacg gtttcacctc caccacggtc 60
cccaaagatg attgtggaca tccagtctca cagcagagtc acctcctatg caggctgcct 120
gactcagatg tctctctttg ccatttttgg aggcatggaa gagagacatg ctcctgagtg 180
tgatggccta tgaccggttt gtagccatct gtcaccctct atgtcattca gccatcacga 240
acccgtgttt ctgtggcttt ctagttttgt tgtctttttt ttttctcagt cttttagacg 300
cccagctgca caacttgatt gccttacaaa ggacctgctt caaggatgtg gaaattccta 360
atttcttctg tgacccttct caattccccc gtcttgcatg ttgtggcacc ttcaccaata 420
acataatcat gtatttccct gcagccatat ttggttttct tcccatctcg gggacccttt 480
tctcttacga taaaattgtt ttctccattc tgagggtttc atcatcaggt gggaagcata 540
aggccttctc caccaggggg tctcacctgt cagttgtttg ctgattttat ggaacaggca 600
ttggaggcta cctcagttca gatgtgtcat cttccccgag aaaggctgca gtggcctcag 660
tgatgtacac ggtggccatc ccc 683

<210> 732
<211> 582

<212> DNA
<213> Unknown (H38g581 nucleotide)

<220>
<223> Synthetic construct

<400> 732
tactttttcc tctccaacct ctccttcttg gacctctgtt tcaccataag ttgtgtcccc 60
gggatgctgg tcaacctctg ggagccaaag aagaccatca tcttactggg ctgctctgtc 120
cagttcttca tcttcctgtc cctggggacc actgagtgca tcctcctgac ggtgatggcc 180
tttgaccgct acatggctat ctgccagccc ctccactatg ccaccatcgt ccaccctctg 240
ctgtgctggc agctggcatc tgtggcctgg gtcatgagtc tggtagagtc agtggtccag 300
acaccatcca ccctccactt gcctttctgc cccgatcggc aggtggatga ttttgtctgt 360
gaggtcccag ctctaattcg actctcctgt gaagacacct cctacaatga aatccagttg 420
gctgttgcca gtgtcttcat cttggctgtg cctctcagcc tcatccttgt ctcttatgga 480
gccattgcct gggcagtgct aaggactaac tctgcaaaag ggcagaggaa agcttttggg 540
acctgctcct cccatctcac tgtggtcacc ctcttctaca gc 582

<210> 733
<211> 959
<212> DNA
<213> Unknown (H38g582 nucleotide)

<220>
<223> Synthetic construct

<400> 733
atggtcagtt ccaatcagac ctcccctgtg ctggggttcc ttctcctggg gctctctgcc 60
catccaaagc tggagaagac attcttcgtg ctcatcctgc tgatgtacct ggtgatccta 120
ctgggcaatg ggtcctcat cctggtgacc atccttgact cccgcctgga cacacccatg 180
tacttcttcc tggggaacct ctccttcctg gacatctgct atacaacctc ctcatccttg 240
acagcttcct gacccccagg aaaaccatct ccttctcagc ctgtgcagta cagatgttcc 300
tctcccttgc catgggagcc acagagtgtg ttctcctgag catgatggcg tttgatcgct 360
acgtggccat ctgcaacccc ctttggtacc ctgaagtcat gaacaaagct acttatgtgc 420
ccatggctgc tggctcctgg gtagctggaa gcctcactgc catggtgcag acacccttg 480
cattgaggct gcccttctgt ggagacaaca tcatcaatca cttcacctgt gagattctgg 540
ctgtcctgaa gttggcctgt gctgatatct ctgtcaatgt gatcagtatg ggagtggcca 600
atgtgatctt cctgggggtc cctgttctgt tcatctcttt ctcctatgtc ttcatcattg 660
ccaccatcct gaggatcccc tcagctgagg ggaggaaaaa ggccttctcc acctgctctg 720
cccacctcac tgtcgtgatc gtcttctacg ggaccatcct cttcatgtac gggaagccca 780
agtctaagga cccactggga gcagacaaac aggaccttgc agacaaactc atttcccttt 840
tctatggggt ggtgaccccc atgctcaacc ccatcatcta cagcctgagg aacaaggaag 900
tgaaggctgc tgtgaggaac ctggtatttc agaaacgctt cctgcagtga tggtggagg 959

<210> 734
<211> 954
<212> DNA
<213> Unknown (H38g583 nucleotide)

<220>
<223> Synthetic construct

<400> 734
atggtaagtg ccaatcagac agcctctgtg accgagttta ttctcctggg cctctctgcc 60
cacccaaagc tggagaaaac gttctttgtg ctcatcctgc tgatgtacct ggtgatccta 120
ctgggcaatg gggtcctcat cctgatgact gtgtccaact cccacctgca catgcccatg 180
tacttcttcc tggggaacct ctccttcctg gacatctgct atacaacata ctcagtcccc 240
ctcatccttg acagcttctt gacccccagg aaaaccatct ccttctcagc ctgtgcagtg 300
cagatgttcc tctcctttgc catgggagcc acagagtgtg ttctcctgag catgatggcg 360
tttgatcgct acgtggccat ctgcaacccc cttaggtacc ctgtggtcat gagcaaggct 420
gcctacatgc ccatggctgt cggctcctgg gtagctggaa gcactgcttc catggtgcag 480

acatcccttg caatgaggct gcccttctgt ggagacaaca tcatcaatca cttcacctgt 540
gagattctgg ctgtccagaa gttggcctgt gctgatatct ctgtcaatgt gatcagtatg 600
ggagtgacca atgtgatctt cctgggggtc ccggttctgt tcatctcttt ctcctatgtc 660
ttcatcattg ccaccatcct gaggatcccc tcagctgagg ggaggaaaaa ggccttctcc 720
acctgctctg cccacctcac agtcgtggtc atcttctatg ggaccatcct cttcatgtat 780
gggaagccca agtctaagga cccgctgggg gcagacaagc aagactttgc agacaaactc 840
atttcccttt tctatggggt ggtgaccccc atgctcaacc ccatcatcta cagcctgagg 900
aacaaggatg taaaggctgc tgtgagggac ttgatatttc agaaatgctt tgcc 954

<210> 735
<211> 962
<212> DNA
<213> Unknown (H38g584 nucleotide)

<220>
<223> Synthetic construct

<400> 735
atgaacaggt ccaatgaggc ctcccctgtg ttggggttcg ttctcctggg cctctctgcc 60
cacccatagc tggagaagac attctttgtg ttcatcctgc tggtgtacct ggtgatcctg 120
ctgggcaacg ggtcctcat cctggtgacc atccttgact cccgcctgca cacacccatg 180
tacttcttcc tggggaacct ctccttcctg gacatctgct atacaacctc ctcatccttg 240
acagcttcct gacccccagg aaaaccatct ccttctcagc ctgtgcagta cagatgttcc 300
tctcctttgc catgggagcc acagagtgtg ttctcctgag catgatggct tttgatcact 360
acctggacat gtgcaacccc cttaggtacc ctgtggtcat gagcaaggct gcctacatgc 420
ccatggctgt tggctcctgg gcagctggta tcaccaactc tgtagtacag atatccctag 480
caatgtgact gcccttctgt ggggacaatg tcatcaatca cttcacctgt gagatcctgg 540
cagttctaaa gttggcctgt gctgacatct gcatcaacgt gatcagcatg gttgtgacca 600
acatgatctt ccttgcactc ccagtcctgt ttatttttgt ctcatatgtc ttcatcattg 660
ccaccatcct gagaatcccc tcagctgagg ggaggaaaaa ggccttctcc acctgctctg 720
cccacctcac tgtcgtgatc gtcttctatg ggatgatcct cttcatgtat gggaagccca 780
agtctaagga cccaatggga gcagacaaac aggaccttgc agacaaactc atctccattt 840
tctatggagt ggtgaccccc attctcaacc ccatcatcta cagcccgagg aacaaagatt 900
tgaaagctgc tatgaggaac ctggtggctc aaaaacacct aacagagtga ctatcacaga 960
tc 962

<210> 736
<211> 375
<212> DNA
<213> Unknown (H38g585 nucleotide)

<220>
<223> Synthetic construct

<400> 736
agactaaatg tcatcagtca cctgcccttc tatggggaca tcatcaacca cttgacctgt 60
gaggtcctgg ctgtcctgaa gttggcctgt gctgacatct ctatcaacat gatcaggcaa 120
aaggccttct ccacctgctc tgcccacctc acagttgtgg tcatcttcta caggaccatc 180
ctcttcacgc atggaagcc caagtcgaag gacccactgg gggcagacaa gcaggatttt 240
gcagacaaac tcatctccct ctcctatgga gtggtcaccc ccatgctgaa caccatcatc 300
tacagcctga ggaaaaaggg tgtgaaggct gctgtgaaga acctggtatt tcagaaaccc 360
ctaactgaat gacag 375

<210> 737
<211> 648
<212> DNA
<213> Unknown (H38g586 nucleotide)

<220>
<223> Synthetic construct

<400> 737
tttgttgaca tgggtttaac gtcctccaca gttaccaaga tgctggtgaa tatacagact 60
cggcatcaca ccatcaccta tacgggttgc ctcacgcaaa tgtatttctt tctgatgttt 120
ggtgatctag acagcttctt cctggctgcc atggcgtatg accgctatgt ggccatctgc 180
cacccccctct gctactccac ggtcatgagg ccccaagtct gtgccctaat gcttgcattg 240
tgctgggtcc tcaccaatat cgttgccctg actcacacgt tcctcatggc tcggttgtcc 300
ttctgtgtga ctggggaaat tgctcacttt ttctgtgaca tcactcctgt cctgaagctg 360
tcatgttctg acacccacat caacgagatg atggtttttg tcttgggagg caccgtactc 420
atcgtcccct ttttatgcat tgtcacctcc tacatccaca ttgtgccagc tatcctgagg 480
gtccgaaccc gtggtggggt gggcaaggcc ttttccacct gcagttccca cctctgcgtt 540
gtttgtgtgt tctatgggac cctcttcagt gcctacctgt gtcctccctc cattgcctct 600
gaagagaagg acattgcagc agctgcaatg tacaccatag tgactccc 648

<210> 738
<211> 957
<212> DNA
<213> Unknown (H38g587 nucleotide)

<220>
<223> Synthetic construct

<400> 738
atggaaaaag ccaatgagac ctcccctgtg atggggttcg ttctcctgag gctctctgcc 60
cacccagagc tggaaaagac attcttcgtg ctcatcctgc tgatgtacct cgtgatcctg 120
ctgggcaatg gggtcctcat cctggtgacc atccttgact cccgcctgca cacgcccatg 180
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gcctacatgc ccatggctgc cagctcctgg gctattggtg gtgctgcttc cgtggtacac 480
acatccttgg caattcagct gcccttctgt ggagacaatg tcatcaacca cttcacctgt 540
gagattctgg ctgttctaaa gttggcctgt gctgacattt ccatcaatgt gatcagcatg 600
gaggtgacga atgtgatctt cctaggagtc ccggttctgt tcatctcttt ctcctatgtc 660
ttcatcatca ccaccatcct gaggatcccc tcagctgagg ggaggaaaaa ggtcttctcc 720
acctgctctg cccacctcac cgtggtgatc gtcttctacg ggaccttatt cttcatgtat 780
gggaagccta agtctaagga ctccatggga gcagacaaag aggatctttc agacaaactc 840
atcccccttt tctatggggt ggtgaccccg atgctcaacc ccatcatcta tagcctgagg 900
aacaaggatg tgaaggctgc tgtgaggaga ctgctgagac caaaaggctt cactcag 957

<210> 739
<211> 653
<212> DNA
<213> Unknown (H38g588 nucleotide)

<220>
<223> Synthetic construct

<400> 739
ctgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagagaca tgctcctgag tgtgatagcc tatgagcggt ttgtagccat 180
ctgtcaccct ctatatcatt cagccatcat gaacccatgt ttctgtggct ttctagtttt 240
gttgtctttt tttttctcag tcttttagac gcccagctgc acaacttgat tgccttacaa 300
aggacctgct tcaaggatgt ggaaattcct aatttcttct gtgacccttc tcaactcccc 360
atcttgcata ttgtggcacc ttcaccaata acataatcat gtatttccct gccgccatat 420
ttggttttct tcccatctcg ggaccctttt tctcttacaa taaaattgtt ttctccattc 480
taagggtttc atcatcaggt gggaagtata aggccttctc cacctgtggg tctcacctgt 540
cagttgtttg ctgattttat ggaacaggca ttggaggcta cctcggttca gatgtgtcat 600
cttccccgag aaaggctgca gtggcctcag tgatgtacac ggtggtcatc ccc 653

<210> 740

<211> 648
<212> DNA
<213> Unknown (H38g589 nucleotide)

<220>
<223> Synthetic construct

<400> 740
tttgtggatg tctgcttctc ctctaccact gtccctaaag ttctggccaa ccatatactt 60
gggagtcagg ccatttcctt ctctgggtgt ctcacccagc tgtattttct cgctgtgtgt 120
ggtaacatgg acaatttcct gctgggtgtg atgtcctatg accgatttgt ggccatatgc 180
cacccttac actacacaac aaagatgacc cgacagctct gtgtcctgct tgttgtgggg 240
tcatgggttg tagccaacat gaattgtctg ttgcacatac tgctcatggc tcgactctcc 300
ttctgtgcag acaacatgat cccccacttc ttctgtgatg gaactcccct cctgaaactc 360
tcctgctcag acacacatct caatgagctg atgattctta cagagggagc tgtggtcatg 420
gtcaccccat ttgtctgcat cctcatctcc tacatccaca tcacctgtgc tgtcctcaga 480
gtctcatccc ccaggggagg atggaaatcc ttctccacct gtggctccca cctggctgtg 540
gtctgcctct tctatggcac cgtcatcgct gtgtatttca acccatcatc ctctcactta 600
gctgggaggg acatggcagc tgcagtgatg tatccagtgg tgacccca 648

<210> 741
<211> 988
<212> DNA
<213> Unknown (H38g590 nucleotide)

<220>
<223> Synthetic construct

<400> 741
atggcagaag aaaataagat tctggtgact cactttgtcc tcacaggact cacagatcat 60
ccagggctgc aggcgcccct gttcctggtg ttcttggtca tctacctcat caccctggtg 120
ggcaaccttg gcctgatggc tctcatctgg aaggaccccc accttcacac ccccatatac 180
ttatttcttg gcagtttagc ctttgcagat gcatgcactt catcctctgt aacttctaag 240
atgcttatca attttttat caaagaatca tatgctatcc atggctaagt gtgccaccca 300
gttttacttt tttggttcca atgcaaccac agaatgcttc ctgctggtag tgatggccta 360
tgaccgctat gtagccatat gcaatccctt gctttatcca gtggtgatgt ccaatagcct 420
ctgtactcag tttataggta tttcatattt tattggtttt ctgcattcag cgattcatgt 480
gggtttgtta tttagattaa ctttctgcag gtccaatatt atacattatt tctactgtga 540
aattttacag ctgttcaaaa tttcttgcac caatcctaca gttaatatac ttctgatttt 600
catcttttca gcatttatac aagtcttcac ttttatgact cttatcgtct cttactccta 660
tattctctct gccatcctga aaaagaagtc tgagaagggt agaagcaaag ccttctctac 720
ttgcagtgcc catctgctct ctgtctcttt gttctacggc accctcttct tcatgtatgt 780
gagttctagg tctggatcag ctgcagatca ggccaaaatg tattctttat tttacacaat 840
aataattcct ttactaaatc cttttattta cagcctaagg aacaaagagg ttatagatgc 900
cctgagaaga atcatgaaga aataaatagt tgtcagacaa cattcaaacc atttcttctt 960
tatattctgc tgaagaaaac cccaagtc 988

<210> 742
<211> 636
<212> DNA
<213> Unknown (H38g591 nucleotide)

<220>
<223> Synthetic construct

<400> 742
tgtcactccc agggtcacgg ctagcagggc taggttactt agagggtagg aggctaagtt 60
cctcgtacaa tgcttgtgct gctcagatgt tctttttgt agccttggcc acagtggaaa 120
atatcgctgt tgacatcaat ggcctatgac cactatatag cagtgtgcaa acccctacac 180
tacactacca ccacgatagc cagtgtatgt gctcatctgg tcataggctc ctatgtctgt 240
ggctttctaa atgcctccct ccgcattgtg gacatattca gtctctcttt ctgtaagtcc 300

aatcttgtcc atcacctttt ctgtgatgtt ccaccagtca tggctgtgtc ttgctctggt 360
aaacacatta gcaagaagat tctggttttt atgtcaagct tcaatgtctt tttggctctt 420
ctagttatct tgacctccta cctgttcata ttcatcacca tcttgaagat gcactcagct 480
cagggacact taaaagcttt gtccacctgt gcctctcacc tcattgcagt ctccatcttc 540
tatggaacta ctatctttat gtacttacag cctagctcca gccattccat ggacacagat 600
gaaatggcat ccttgttcta tgctgtgttc atctcc 636

<210> 743
<211> 942
<212> DNA
<213> Unknown (H38g592 nucleotide)

<220>
<223> Synthetic construct

<400> 743
atgggggaca accaatcacg ggtcacagaa ttcatcctgg ttggattcca gctcagtgtg 60
gagatggaag tgctcctctt ctggatcttc tccctgttat atctcttcag cctgctgggg 120
aatggggtca tctttgggct catctgcctg gactctaagc ttcacacccc catgtacttc 180
ttcctctcac acctggccgt cattgacatg tcctatgctt ccaacaatgt tcccaagatg 240
ctggcaaacc tagtgaacca gaaaagaact atctcgttca tctcttgcat aatgcagact 300
ttttgtattt tggcttttgc tgttacagtg tgcctgattt tggtggtgat gtcctatgac 360
agatttgtgg ccatctgcca tcccctgcat tacactgtca tcatgagctg gagagtgtgc 420
actgtcctgg ctgtggcttc ctgggtgttc agcttcctcc tggctctggt ccatttagtt 480
ctcattctga ggctgccctt ctgtgggccc caggaggtga accacttctt cggtgaaatc 540
ctgtctgtcc tcaagttggc ctgtgctgac acctggctca accaggtggt catctttgca 600
gcctgcatgt tcatcctggt agggtgactc tgcctggtgc tggtctccta cttgcacatc 660
ctggcggcca tcttgaggat ccagtctggg gagggccgca gaaaggcctt ctctacctgc 720
tcctcccacc tctgcgtggt ggggcttttc tttggcagcg ccattgtcat gtacatggcc 780
cccaagtcaa gccattctca agaacggagg aagatccttt ccctgtttta cagccttttc 840
aacccgatcc tgaaccccct catctacagc cttaggaatg cagaggtgaa aggggctcta 900
aagagagtcc tttggaaaca gagatcaatt gaagaatcat tt 942

<210> 744
<211> 648
<212> DNA
<213> Unknown (H38g593 nucleotide)

<220>
<223> Synthetic construct

<400> 744
ttctctgacc tctgcttctc ttccgtgacc attcccaagt tgttacagaa catgcagaac 60
caggacccat ccatccccta tgcggactgc ctgacccaaa tgtacttctt cctgttattt 120
ggagacctgg agagcttcct ccttgtggcc atggcctatg accgctatgt ggccatctgc 180
ttccccctgc actacaccgc catcatgagc cccatgctct gtctcgccct ggtggcgctg 240
tcctgggtgc tgaccacctt ccatgccatg ttacacactt tactcatggc caggttgtgt 300
ttttgtgcag acaatgtgat cccccacttt ttctgtgata tgtctgctct gctgaagctg 360
gccttctctg acactcgagt taatgaatgg gtgatattta tcatgggagg gctcattctt 420
gtcatcccat tcctactcat ccttgggtcc tatgcaagaa ttgtctcctc catcctcaag 480
gtcccttctt ctaagggtat ctgcaaggcc ttctctactt gtggctccca cctgtctgtg 540
gtgtcactgt tctatggaac cgttattggt ctctacttat gctcatcagc taatagttct 600
actctaaagg acactgtcat ggctatgatg tacactgtgg tgaccccc 648

<210> 745
<211> 936
<212> DNA
<213> Unknown (H38g594 nucleotide)

<220>
<223> Synthetic construct

<400> 745
atggatggag agaatcactc agtggtatct gagtttttgt ttctgggact cactcattca 60
tgggagatcc agctcctcct cctagtgttt tcctctgtgc tctatgtggc aagcattact 120
ggaaacatcc tcattgtgtt ttctgtgacc actgaccctc acttacactc ccccatgtac 180
tttctactgg ccagtctctc cttcattgac ttaggagcct gctctgtcac ttctcccaag 240
atgatttatg acctgttcag aaagcgcaaa gtcatctcct ttggaggctg catcgctcaa 300
atcttcttca tccacgtcgt tggtggtgtg gagatggtgc tgctcatagc catggccttt 360
gacagatatg tggccctatg taagcccctc cactatctga ccattatgag cccaagaatg 420
tgcctttcat ttctggctgt tgcctggacc cttggtgtca gtcactccct gttccaactg 480
gcatttcttg ttaatttagc cttctgtggc cctaatgtgt tggacagctt ctactgtgac 540
cttcctcggc ttctcagact agcctgtacc gacacctaca gattgcagtt catggtcact 600
gttaacagtg ggtttatctg tgtgggtact ttcttcatac ttctaatctc ctacgtcttc 660
atcctgttta ctgtttggaa acattcctca ggtggttcat ccaaggccct ttccactctt 720
tcagctcaca gcacagtggt cctttttgttc tttggtccac ccatgtttgt gtatacacgg 780
ccacacccta attcacagat ggacaagttt ctggctattt ttgatgcagt tctcactcct 840
tttctgaatc cagttgtcta tacattcagg aataaggaga tgaaggcagc aataaagaga 900
gtatgcaaac agctagtgat ttacaagagg atctca 936

<210> 746
<211> 384
<212> DNA
<213> Unknown (H38g595 nucleotide)

<220>
<223> Synthetic construct

<400> 746
atgaactcag agaacctcac ccgggccgcg gttgccccctg ctgaattcgt cctcctgggc 60
atcacaaatc gctgggacct gcgtgtggcc ctcttcctga cctgcctgcc tgtctacctg 120
gtgagcctgc tgggaaacat gggcatggcg ctgctgatcc gcatggatgc ccggctccac 180
acacctatgt acttcttcct ggccaacctc tccctgctgg atgcctgcta ttcctccgcc 240
atcggcccca agatgctagt ggacctgctg ctgccccgag ccaccatccc ttacacagcc 300
tgtgccctcc agatgtttgt ctttgcaggt ctggctgata ctgagtgttc aatgcaatta 360
atgccaaaag tgaaccaaaa tgta 384

<210> 747
<211> 810
<212> DNA
<213> Unknown (H38g596 nucleotide)

<220>
<223> Synthetic construct

<400> 747
atgaccattg tcttgctttc agctctggat tcccggctgc acacaccaat gtatttcttt 60
ttggcaaacc tctcattcct ggacatgtgt ttcaccacag gttccatccc tcagatgctc 120
tacaaccttt ggggtccaga taagaccatc agctatgtgg gttgtgccat ccagctgtac 180
tttgtcctgg ccctgggagg ggtggagtgt gtcctcctgg ctgtcatggc atatgaccgc 240
tatgctgcag tctgcaaacc cctgcactac accatcatca tgcacccacg tctctgtgga 300
cagctggctt cagtggcatg gctgagtggc tttggcaatt ctctcataat ggcaccccag 360
acattgatgc taccccgctg tgggcacaga cgagttgacc actttctctg tgagatgcca 420
gcactaattg gtatggcctg tgtagacacc atgatgcttg aggcactggc ttttgccctg 480
gcaatcttta tcatcctggc accactcatc ctcattctca tttcttatgg ttacgttgga 540
ggaacagtgc ttaggatcaa gtcagctgct gggcgaaaga aagccttcaa cacttgcagc 600
tcgcatctaa ttgttgtctc tctcttctat ggtacaatca tatacatgta cctccagcca 660
gcaaatactt attcccagga ccagggcaag tttcttaccc ttttctacac aattgtcact 720
cccagtgtta accccctgat ctatacacta agaaacaaag atgttaaaga ggccatgaag 780
aaggtgctag ggaaggggag tgcagaaata 810

<210> 748

<211> 342
<212> DNA
<213> Unknown (H38g597 nucleotide)

<220>
<223> Synthetic construct

<400> 748
atttgctttc ctctccacta tcccatccgt ataagcaaaa gagtgtgtgt gatgatgata 60
acaggatctt ggatgataag ctctatcaac tcttgtgctc acacagtata tgcactctgt 120
atcccatatt gcaagtccag agccatcaat catttttct gtgatgttcc agctatgttg 180
acgctagcct gcacagacac ttgggtctat gagagcacag tgtttttgag cagcaccatc 240
tttcttgtgc ttcctttcac tggtattgca tgttcctatg gccgggttct ccttgctgtc 300
taccgcatgc actctgcaga agggaggaag aaggcctatt ca 342

<210> 749
<211> 635
<212> DNA
<213> Unknown (H38g598 nucleotide)

<220>
<223> Synthetic construct

<400> 749
tttgtggaca ttgcctgttc ctcagccaca gcacccaaga tgattgtaga ctctgtttct 60
gagaaaaaga ctatttccta ctggggctgt ataactcaga tgtttacctt ccactttttt 120
ggttgtgctg acatttttgt tttgactgtc atggcttttg atcgctatgc tgctatctgc 180
caacccctcc gttacactgt catcatgagt gctaatgctt atactgtgct ggcatcactg 240
tcctggttgg gggccctggg tcattccttt gttcagaccc tcctgacctt ccagctgccc 300
ttctgtaatg ctcaggttat agaccattac ttttgtgatg tccacccagt cctaaaactt 360
gcctgtgctg atacaactct ggtaagtatg ttggtggttg ccaacagtgg tctcatctcc 420
ctggggtgtt tcctcattct tttggcctcc tacacagtca ttctgtttag tcttcaaaaa 480
cagtctgcag agagctgaca caaagttctc tctacctgtg gatctcatct gactatagta 540
actttcttct ttgttccgtg tacctttatt tatctccatc cactactttc ccattggata 600
aagctgtgtc tgtgttctat accaccatca cccca 635

<210> 750
<211> 633
<212> DNA
<213> Unknown (H38g599 nucleotide)

<220>
<223> Synthetic construct

<400> 750
tttgttgatt tctgttattc caccacaatt acacccaaac tgctggagaa cttggttgcg 60
gaagatagaa ctatctcctt cacaggatgc accatgcagt tattctttgt ctgcatattt 120
gtagtaacag aaacatgcat gctggcagtg atggcctatg accgatatgt ggcggtgtgt 180
accctcttct ctacacagtt gcaatgtacc agaggctttg ctccttgtta gtggctacat 240
catactgctg gggatagtc tgttccctga cacttaccta gtttctactg gagttatcct 300
tcagaggaaa taatatcatt aataactttg tctgtgagca cgctgccatt gttgctgtgt 360
cttgctctga cccctgtgtg agccagtaga tcactttagt ttctgccaca ttcaatgaaa 420
taagcagcct gcttcctatg ctttcatttt tatcactgtc atgaagacgg cttccactgg 480
ggggcgcaag aaagcgttct ccacgtctgc ctcccactga cggccattac cattttccat 540
gggactattc ttttcctcta ctgtgttcct aacgccaaaa gttcgtggct catggtcaag 600
gtggcctctg gcttttacac agtggtcatg ccc 633

<210> 751
<211> 646
<212> DNA
<213> Unknown (H38g600 nucleotide)

<220>
<223> Synthetic construct

<400> 751
tttgtagaca tctgtgttac ctccaccaca gtcccaaaga cactgtcaaa catccggaca 60
cagagtaaag tcatcaccta tgcaggttgc atcacccaga tgtacttttt tgtactcttt 120
atagtgttgg acagcttact cttgaccgtg atggcctatg accagtttgt ggccatctgt 180
caccccctgc actacacggt catcgtgaac cctcggctct gtggactgct ggttctggcg 240
tcctggatca tgagtgccct gaattccttg atagaaagct taatggtgtt gccactgctc 300
ttttgtacag acttgaaaat cccccacttt ttctgtgaac ttaatcagat aatccgcagt 360
gcctgttctg acacctttct taatgacatg gtgatgtatt tgtcagctgt gcttctaggt 420
aggggatgtt tcactgggat cctgtactct tactttaaga cagtttcctc catacgtgca 480
atctcatcag ctcaggggaa gtacaaggca ttttccacct gtgcatcgca cctctcagtt 540
gtctccttat tttattgtat gggccttggg gtgtacctta gtgctgctgc aacccacaac 600
tcactctcaa gtgcaacagc ctctgatgta cactgtggtc accccc 646

<210> 752
<211> 342
<212> DNA
<213> Unknown (H38g601 nucleotide)

<220>
<223> Synthetic construct

<400> 752
atttgctttc ctctccacta tcccatccgt atgagaaaaa gagtgtgtgc actgatgata 60
acaggatctt ggatgatagg ctccatcaac tcttgtgctc acacggtata tgcactccgt 120
atcccatatt gcaagtccag agccatcaat catttttttct gtgatgttcc agctatgttg 180
accctagcct gcacggatac ctgggtctat gagtgcacgg tgtttttgag caccaccatt 240
tttcttgtgt ttcccttcat ttgtattgca tgttcctatg gccggattct ccttgctgtc 300
taccacatgc actctgcaga agggaggaag aaggcctatt cg 342

<210> 753
<211> 648
<212> DNA
<213> Unknown (H38g602 nucleotide)

<220>
<223> Synthetic construct

<400> 753
cttgtcgatg tctcctatgc cacaagtgta gtccctcagc tgctggcaca ttttcttgca 60
gaacataaag ccatcccatt ccagagctgt gcagcccagt tattttttctc cctggccttg 120
ggtgggattg agtttgttct cctggcggtg atgggctatg accgctatgt ggctgtgtgt 180
gatgccctgc gatactcggc catcatgcat ggagggctgt gtgctaggtt ggccatcaca 240
tcctgggtca gtggcttcat cagctctcct gtgcagactg ctatcacctt tcagctgccc 300
atgtgcagaa acaagtttat tgatcacata tcctgtgaac tcctagctgt ggtcaggctg 360
gctcgtgtgg acacctcctc caatgaggtc accatcatgg tgtctagcat tgttcttctg 420
atgacaccct tctgcctggt tcttttgtcc tacatccaga tcatctccac catcctaaag 480
atccagtcca gagaaggaag aaagaaagct ttccacacgt gtgcctctca cctcacagtg 540
gttgccctgt gctatggtgt ggccatttc acttacatcc agccccactc cagtccctct 600
gtccttcagg agaagttgtt ctctgtcttt tatgccattt taacacca 648

<210> 754
<211> 635
<212> DNA
<213> Unknown (H38g603 nucleotide)

<220>
<223> Synthetic construct

<400> 754
tttgtggaca ttgcctgttc ctcagccaca gcacccaaga tgattgaaga ctttgtttct 60
gagaaaaaga ctatttccta ctggggctgt ataactcaga tgtttacctt ccactttttt 120
ggttgtgctg agatttttgt cttgactgtc atggcttttg atcgctatgc tgctatctgc 180
caacccctcc gttacactgt catcatgagt gctaatgctt atactgtgct ggcatcactg 240
tcctggttgg gggccctggg tcattccttt gttcagaccg tcctgacctt ccagctgccc 300
ttctgtaatg ctcaggttat agaccattac ttttgtgatg tccacccagt cctaaaactt 360
gcctgtgctg atacaactct ggtaaatatg ttggtggttg ccaacagtgg tctcatctcc 420
ctggggtgtt tcctcattct tttggcctcc tacacagtca ttctgtttag tcttcaaaaa 480
cagtctgcag agagctgaca caaagttctc tctacctgtg gatctcatct gactatagta 540
actttcttct ttgttccgtg tatctttatt tatctccatc cactactttc ccattggata 600
aagctgtgtc tgtgttctat accaccatca cccca 635

<210> 755
<211> 342
<212> DNA
<213> Unknown (H38g604 nucleotide)

<220>
<223> Synthetic construct

<400> 755
atatgcaaac ctttacttta tccagccatt atgaccaatg gactgtgcat ccggctatta 60
atcttgtcat atgtaggtgg tcttcttcat gctttaatcc atgaaggatt tttattcaga 120
ctaaccttct gtaactccaa catagtacat cacatttact gtgacattat cccattgtct 180
aagatttctt gtactgattc ttctattaat tttctaatgg tttttatttt ctcaggttca 240
attcaggtat tcagcattgt gactattctt gtatcttata catttgttct cttcgcaatc 300
ttaaaaagga aatctgataa aggtgtaagg aaagcctttt cc 342

<210> 756
<211> 333
<212> DNA
<213> Unknown (H38g605 nucleotide)

<220>
<223> Synthetic construct

<400> 756
atttgtaacc ctctgagata ccccatcatc atgagcaggc acgtctgtgt gcagatggcc 60
gccatctcct gggtgacagg ctgtctgact gctctgctgg taactagttg tgccctgcag 120
atccccctct gtgggaatgt catcgaccat ttcacatgtg aaatccttgc agtgctaaaa 180
ctagcttgtg tgagttccct gctcgtggac atggttatgc tggtggtcag tattctcctg 240
ctgcccatcc caatgctttt gatttgcatc tcgtatggct tcatcctttc tacaattctg 300
aggatcggct caacagaggg aagaaacaaa gct 333

<210> 757
<211> 665
<212> DNA
<213> Unknown (H38g606 nucleotide)

<220>
<223> Synthetic construct

<400> 757
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagsagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccatttkt 120
ggaggcatgg aagagagaca tgctcctgag tgtgatggcc tatggccggt ttgtagccat 180
ctgtcaccct ctatatcgtt cagccatctt gaacccatgt ttctgtggct tcctagattt 240
gttgtcttcg ttttgttttg ttttgttttt ctcagtcttt tagactccca gctgcacaac 300
ttgattgcct tacaaatgac cggcttcaag gatgtggaat tcctaatttc ttctgggaac 360

cttctcaact ccccatcttg catgttgtga caccttcacc aggaacatca acctgtattt 420
ccctgctgcc gtatttggtt ttcttcccat cttggggacc ttttctctta ctgtaaaatt 480
gtttcctcca ttctgagggt ttcatcatca ggtgggaagt ataaaccttc tccacctgtg 540
ggtctcacct gccagttgtt tgctgatttt gtggaacagg tgttggaggg taccttggtt 600
cagatgtgtc atcttcccca agaaagagtg cagtgccctc agtgatgtac ccggtggtca 660
cctcc 665

<210> 758
<211> 646
<212> DNA
<213> Unknown (H38g607 nucleotide)

<220>
<223> Synthetic construct

<400> 758
tttgtagaca tctgtgttac ctccaccaca gtcccaaaga cactgtcaaa catccggaca 60
cagagtaaag tcatcaccta tgcagattgc atcacccaga tgtacttttt tgtactcttt 120
atagtgttgg acagcttact cttgaccgtg atggcctatg accagtttgt ggccatctgt 180
cacccccctgc actacacggt catcgtgaac cctcggctct gtggactgct ggttctggcg 240
tcctggatca tgagtgccct gaattccttg atagaaagct taatggtgtt gccactgctc 300
ttttgtacag acttgaaaat cccccacttt ttctgtgaac ttaatcagat aatccgcagt 360
gcctgttctg acacctttct taatgacatg gtgatgtatt tgtcagctgt gcttctaggt 420
aggggatgtt tcactgggat cctgtactct tactttaaga cagtttcctc catacgtgca 480
atctcatcag ctcaggggaa gtacaaggca ttttccacct gtgcatcgca cctctcagtt 540
gtctccttat tttattgtat gagccttggg gtgtacctta gtgctgctgc aacccacaac 600
tcactctcaa gtgcaacagc ctctgatgta cactgtggtc accccc 646

<210> 759
<211> 834
<212> DNA
<213> Unknown (H38g608 nucleotide)

<220>
<223> Synthetic construct

<400> 759
atggcaatta ggaaccattc caccctccac aaacccatgt actttttttt agctaatatg 60
tcctttctgg agatttggta tgtcactgtc actattccca agatgcttgc tggctttgtt 120
ggatccaaac aggatcatgg acagctaatc tcctttgagg gatgcatgac acagctttac 180
tttttccttg gcttgggctg cactgagtgt gtccttctcg ctgttatggc caatgatcgc 240
tatatggcca tctgctatct tctccacaac ccagtcattg tcagtggccg gctgtgtgtg 300
cagatggctg ctggctcttg ggctggaggt tttggcatct ccatggtcaa agtttttctt 360
atttcgggcc tctctaacgg tggccccaac atcatcaacc actttttctg tgatgtctct 420
ccattgctca acctctcatg cactgatatg tccacagcag agcttacaga tttcatcctg 480
gccattttta ttcttctagg gccactctct gtcactgggg cctcctatgt ggccattact 540
ggtgctgtga tgcacattcc ttcggctgct ggacggtata aggcctttc cacctgtgcc 600
tctcatttca atgttgtgat aatttttat gcagccagta tcttcattta tgctcggcca 660
aaggcacttt cagcttttga caccaacaag ttggtctctg tactgtatgc tgtcattgta 720
ccattgctca atcccatcat ttactgcctg cgcaatcaag aggtcaagag agccctatgc 780
tgtattttgc acctgtacca gcaccaggat cctgacccca agaaaggtag caga 834

<210> 760
<211> 942
<212> DNA
<213> Unknown (H38g609 nucleotide)

<220>
<223> Synthetic construct

<400> 760

atggaattta cagatagaaa ctacacgttg gtcactgagt ttattctatt aggttttcca 60
actcgccctg aactgcagat tgtcctgttc ctcatgtttc tgacattgta tgctataatt 120
ctgataggga acattggatt gatgctgttg atcaggattg atcctcacct tcaaaccccc 180
atgtattttt tccttagcaa cctatcattt gtagaccttt gctatttctc agacattgtt 240
cccaaaatgc tggtcaattt cctctcggag aacaaatcta tttcctatta tgggtgtgcc 300
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gcctatgatc gctatgtcgc catctgtaac cctttattgt acacagttgt gatgtctagg 420
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cacacatcct ttgcctttat tctgaaatat tgtgacaaaa atgttattaa tcatttttc 540
tgtgacctcc ctcccctgct taaactatcc tgcactgaca caacaattaa tgagtggctc 600
ctctccacat acggcagctc agtggaaatc atttgtttta tcatcatcat catctcctac 660
tttttcattc ttctctcagt cttaaagatc cgctctttca gtgggaggaa gaagaccttt 720
tctacatgcg cctctcacct gacttcagtg acgatctacc aagggactct cctctttatt 780
tactcacggc ccagctacct gtattctcca aacactgata aaattatctc agtgttctac 840
accatttca ttccagtgct gaatccgttg atttatagtt tgagaaataa agatgtaaag 900
gatgcagctg agaaagttct aagatcaaag gtagattctt ca 942

<210> 761
<211> 948
<212> DNA
<213> Unknown (H38g610 nucleotide)

<220>
<223> Synthetic construct

<400> 761
atggataacc aaagctccac accgggcttc ctccttctgg gcttctctga acacccaggg 60
ctgggaagga ctctcttcgt ggatgtcatc acttcctacc tcctaaccct agtgggcaac 120
acactcatca tcctgctgtc tgcgctggac accaagctcc actctccaat gtactttttc 180
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gccaacctct ggggcccaaa gaagaccatc agcttcctgg actgctctgt ccagatcttc 300
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tacgtggctg tctgccagcc cctccactat gccaccatca tccacccccg cctgtgctgg 420
cagctggcat ctgtggcctg ggtcattggg ctagtggggt cagtggtcca gacaccatcc 480
accctgcacc tgcccttctg ccccgatcgg caggtggatg attttgtctg tgaggtccca 540
gctctaattc gactctcctg tgaagacacc tcctacaatg agatccaggt ggctgttgcc 600
agtgtcttca tcttggttgt gcctctcagc ctcatccttg tctcttacgg agccattacc 660
tgggcagtgc tgaggattaa ctccgccaca gcatggagaa aggcctttgg gacctgctcc 720
tcccatctca ctgtggtcac cctcttctac agctcagtca ttgctgtcta cctccagccc 780
aaaaatccgt atgcccaagg gaggggcaag ttctttggtc tcttctatgc agtgggcact 840
ccttcactta accctctcgt atacaccctg aggaacaagg agataaagcg agcactcagg 900
aggttactag ggaaggaaag agactccagg gaaagctgga gagctgct 948

<210> 762
<211> 927
<212> DNA
<213> Unknown (H38g611 nucleotide)

<220>
<223> Synthetic construct

<400> 762
atgaaaagag agaactttac tctcatcact gactttgttt tccaaggttt ctctagcttc 60
catgagcagc agatcaccct ttttggcgtg ttccttgcac tatacatctt aaccttagca 120
ggcaatatca tcattgtgac catcatccga attgatcttc atcttcacac acccatgtac 180
ttcttcctga gcatgctgtc cacttcagag actgtatata cattggtcat tctcccaaga 240
atgctctcca gcctcgtagg tatgagccag cccatgtcat tggcagggtg tgccacacag 300
atgttctttt ttgtaacctt tggcatcact aactgcttcc tgctcacagc aatgggatat 360
gaccgctatg tggccatctg caaccccctg agatacatgg ttattatgaa caagaggctg 420
cgtatccaac ttgtcctggg ggcctgcagc attgggctga ttgtagcaat aacgcaagtg 480
acatctgtat tcaggttacc cttctgtgct agaaaggtgc ccacttcttt ctgtgacatc 540

cgccctgtga tgaagctctc ctgcattgac accactgtca atgaaatcct gactttgatt 600
atcagtgtgc tggtgcttgt tgtacctatg ggtctggttt tcatttctta tgttctcatt 660
atctctacaa tcctcaagat tgcttcagtt gagggccgga agaaggcttt tgccacctgt 720
gcatcccacc tcactgtggt cattgtccac tacagctgtg cctccattgc ctacctcaag 780
cccaagtcag agaacaccag agaacatgac cagctgatct cggtgaccta cactgtcatc 840
actcccctac tgaaccctgt ggtatacacc ctgagaaata aagaggtcaa agatgctctg 900
tgcagggctg ttggtgggaa gttttcc 927

<210> 763
<211> 650
<212> DNA
<213> Unknown (H38g612 nucleotide)

<220>
<223> Synthetic construct

<400> 763
tgggctgaca tcggtttcac ctcggccacg gctcccaaga tgattgtgga catgcagtcg 60
cataggagag ccatctctca tgcgggctgt ctgacgcaga tgtctttctt gttcctttgt 120
gcatgtgtag aaggcatgct cctgactgtg atggcctatg actgctttgt agacatctgt 180
cgccctctgc actacccagt catcgggaat cctcacttct gtgtcttctt cgtgggggtg 240
tcctttctcc ttagcctgtg ggattcccag ctgcacagtt ggattgtgtt acaatatcac 300
catcttcaag aatgtggaaa tctctaattt tgtctgtgac ccctctcaac ttctcaaact 360
tgcctgttct gacggcgtca tcaatagcat attcatatat tttgatagta ctatgtttgg 420
tttccttccc atttcaggga tcctatggtc ttactataaa atcgtcccct ccattctaag 480
gatttcatcg tcagatggga agtataaagc cttctccacc tgtggctcct caccaggcag 540
ttgtttgctg attttataga acaggcattg gcatgtacct gacttcagct gtgtcaccac 600
cccccaggaa tggtgtggtg gcatcattga tatacgctct tgtcactccc 650

<210> 764
<211> 641
<212> DNA
<213> Unknown (H38g613 nucleotide)

<220>
<223> Synthetic construct

<400> 764
ttcactgacc tcttctttgt caccaacaca atccccaaga tgctggtgaa cctccagtcc 60
cagaacaaag ccatctccta cacagggtgt ctgacacagc tctacttcct ggtctccttg 120
gtggccctgg acaacctcaa cctggccgtg atggcgtatg atcgctatgt ggccatctgc 180
cgtcccctcc actatgtcac agccatgatc cctgggctct gtatcttgct cctctccttg 240
tgttgggtgt tctctgccct ctatggcctc atccatatcc tcctcatgac caggtgacct 300
tctgtgggtc tcaaaagatc cactacctct tctgtgagat gtacttcctg ctaaggctgg 360
catgttccaa catccacgtc aaccacacag tactggttgc cacgggctgc ttcatcttcc 420
tcatcccctt aggcttcatg atcacatcca acgcccgcat tgtcagagcc atcctccaaa 480
taccctcagc cactgggaag tacaaagcct tctccacctg tgcttcccat ttggctgtgg 540
tctccctctt ctatgggact ctgggtatgg tgtacctgca gcccctccaa acctactcca 600
tgaaggactc agtagccaca gtgatgcatg cggtggtgac g 641

<210> 765
<211> 635
<212> DNA
<213> Unknown (H38g614 nucleotide)

<220>
<223> Synthetic construct

<400> 765
tttgttgatt tctgttattc caccacaatt acacccaaac tgctggagaa cttggttgtg 60
gaagatagaa ctatctcctt cacaggatgc accatgcagt tattctttgt ctgcatattt 120

gtagtaacag aaacattcat gctggcagtg atggcctatg accgatatgt ggcggtgtgt 180
aaccctcttc tctacacagt tgcaatgtac cagaggcttt gctccttgtt agtggctaca 240
tcatactgtt gggggatagt ctgttccctg acacttacct agtttctact ggaattatcc 300
ttcagaggaa ataatatcat taataacttt gtctgtgagc acgctgccat tgttgctgtg 360
tcttgctctg acccctgtgt gagccaggag atcactttag tttctgccac attcagtgaa 420
ataagcagcc tgcttcctat gctttcattt ttatcactgt catgaagacg ccttccactg 480
gggggcgcaa gaaagcgttc tccacgtctg cctcccactt gacggccatt accattttcc 540
atgggactat ccttttcctc tactgtgttc ctaactccaa aagttcgtgg ctcatggtca 600
aggtggcctc tgtcttttac acagtggtca ttccc 635

<210> 766
<211> 635
<212> DNA
<213> Unknown (H38g615 nucleotide)

<220>
<223> Synthetic construct

<400> 766
ttagttgatt tctgttattc caccacaatt acacccaagc tgctgaggaa cttggttgtg 60
gaagatagaa ctatctcctt cacaggatgc accatgcagt tattctttgt ctgcatattt 120
gtagtaacag aaacattcgt gctggcagtg atggcctatg accgatatgt ggcggtgtgt 180
aaccctcttc tctacacagt tgcaatgtac cagaggcttt gctccttgtt agtggctaca 240
tcatactgtt gggggatagt ctgttccctg acacttacct agtttctact ggaattatcc 300
ttcagaggaa ataatatcat taataacttt gtctgtgagc acgctgccat tgttgctgtg 360
tcttgctctg acccctgtgt gagccaggag atcactttag tttctgccac attcaatgaa 420
ataagcagcc tgcttcctat gctttcattt ttatcactgt catgaggacg ccttccactg 480
gggggcgcaa gaaagcgttc tccacgtctg cctcccactt gacggccatt accattttcc 540
atgggactat ccttttcctc tactgtgttc ctaactccaa gagttcgtgg ctcatggtca 600
aggtggcctc tgtcttttac acagtggtca ttccc 635

<210> 767
<211> 936
<212> DNA
<213> Unknown (H38g616 nucleotide)

<220>
<223> Synthetic construct

<400> 767
atgtccattt ccaacatcac agtctacatg ccctctgtgt tgacactagt agggatccca 60
ggcctagaat ctgtgcagtg ctggattggg attccattct gtgccattta tctcattgct 120
atgattggaa attccttgct tctgagcatc atcaaatctg agcgcagtct ccatgagccc 180
ttgtacattt tcttaggcat gctaggagcc acagacattg cacttgctag cagcattatg 240
ccaaagatgc ttggaatatt ctggtttaat gtgcctgaaa tctattttga ttcctgcttg 300
cttcaaatgt ggttcatcca cacattgcag ggtatagagt caggcatcct tgtggccatg 360
gccctggacc gttatgtggc catctgttat ccactaagac atgccaacat cttcacccac 420
cagcttgtca ttcagatagg aactatggtc gtactcaggg ctgctattct tgtagcccca 480
tgcctagtac tgataaagtg ccggtttcaa ttttatcaca caacagtcat ctcccactcc 540
tactgtgagc atatggccat tgtgaaacta gcagcagcaa atgttcaagt caacaaaatc 600
tatggtttgt ttgtggcctt cactgtagca ggatttgacc tcacattcat cacattgtcc 660
tacatccaga tatttatcac agtttttcgt ttgccccaga aggaggctag gtttaaagca 720
ttcaatacct gcattgctca catctgtgtc ttcctccagt tctacctcct tgccttcttc 780
tccttcttca cacataggtt tgggtctcac atcccccctt atatccatat tctcttttct 840
agcatttact tgctggtccc tccatttctc aatccacttg tctatggtgc aaagaccaca 900
cagattcgca ttcatgtggt aaaaatgttc tgttca 936

<210> 768
<211> 954
<212> DNA
<213> Unknown (H38g617 nucleotide)

<220>
<223> Synthetic construct

<400> 768
atgtggcaga agaatcagac ctctctggca gacttcatcc ttgaggggct cttcgatgac 60
tcccttaccc accttttcct tttctccttg accatggtgg tcttccttat tgcggtgagt 120
ggcaacaccc tcaccattct cctcatctgc attgatcccc agcttcatac accaatgtat 180
ttcctgctca gccagctctc cctcatggat ctgatgcatg tctccacaat catcctgaag 240
atggctacca actacctatc tggcaagaaa tctatctcct ttgtgggctg tgcaacccag 300
cacttcctct atttgtgtct aggtggtgct gaatgttttc tcttagctgt catgtcctat 360
gaccgctatg ttgccatctg tcatccactg cgctatgctg tgctcatgaa caagaaggtg 420
ggactgatga tggctgtcat gtcatggttg gggcatccg tgaactccct aattcacatg 480
gcgatcttga tgcacttccc tttctgtggg cctcggaaag tctaccactt ctactgtgag 540
ttcccagctg ttgtgaagtt ggtatgtggc gacatcactg tgtatgagac cacagtgtac 600
atcagcagca ttctcctcct cctccccatc ttcctgattt ctacatccta tgtcttcatc 660
cttcaaagtg tcattcagat gcgctcatct gggagcaaga gaaatgcctt tgccacttgt 720
ggctcccacc tcacggtggt ttctctttgg tttggtgcct gcatcttctc ctacatgaga 780
cccaggtccc agtgcactct attgcagaac aaagttggtt ctgtgttcta cagcatcatt 840
acgcccacat tgaattctct gatttatact ctccggaata aagatgtagc taaggctctg 900
agaagagtgc tgaggagaga tgttatcacc cagtgcattc aacgactgca attg 954

<210> 769
<211> 881
<212> DNA
<213> Unknown (H38g618 nucleotide)

<220>
<223> Synthetic construct

<400> 769
gccacgtaca attccagcaa tactgtggtg acagagtttg tgtttctgag cttcccagag 60
ctgcaccatc ttcaagggct gctatttggt cactcctcat catctatgtg gtgaccatcc 120
tagaggacct ggctgtcgtg ggaccatca gagccagcca ccacctgcac atatccacac 180
acctcttcct ggcccaactc tcggtgctgg agactctgta cacctcggtc accgtcccaa 240
agctgttggc cggactccca gcacgagcga cgaccatcta tctccttctc ggggcacctc 300
acctggctgc tcctcttcct ctcactcagc tcctctgagt gcgtcctccc ggccaacatg 360
gactgtgact ggcacccagt catctgccac ctgctgcact acccagccca tcatggactc 420
catgcagctg gctctgcctg cacctggcca tcagcgccca gctcagcagc ttcccagcct 480
cctttgtgtc cacggctctc aactccagcc tgaggctccg cagccccgat gtcctcaacc 540
acttctgtga tatcccaccc ccgctagggc tctcttgctc cagcaccact accatagaaa 600
tgcggactca ggcagcccag gtgatccttg cggcttccct gcaggcaacc acggtctcct 660
acacccacat cctggccaga tcgctgagga ttccagaaag gcccagcagc taaaggcctt 720
ccccacctat gcctcccacc tggggtggcg gctcctctaa cctcatcaag ctggtgttca 780
ggggtctact tggttgggat ccctctgctc aaacccatca tctactgcct gggaactgca 840
acatcaggga ggccctggcc aaactcctcc aggcccttcc c 881

<210> 770
<211> 880
<212> DNA
<213> Unknown (H38g619 nucleotide)

<220>
<223> Synthetic construct

<400> 770
gccacataca attccagcaa tactgtggtg acagagtttg tctttctgag cttcccagag 60
ctgcgccatc ttcaagggct gctatttggt cactcctcat catctatgtg gtgaccatcc 120
tagaggacct ggctgtcgtg ggaccatca gagccagcca ccacctgcac atatccacac 180
acctcttcct ggccaaactc tcggtgctgg agaccctgta cacctcggtc accgtcccaa 240
agctgttggc cggactccca gcacgagcga cgaccatcta tctccttctc ggggcacctc 300

acctggctgc tcctcttcct ctcactcagc tcctctgagt gcatcctccc ggccaacatg 360
gactgtgact ggcacccggt catctgccac ctgctgcact acccagccca tcatggactc 420
catgcagctg gctctgcctg cacctggcca tcagcgccca gctcagcagc ttcccagcct 480
cctttgtgtc cacggctctc aactccagcc tgaggctccg cagccccgat gtcctcaacc 540
acttctgtga tatcccaccc ccgctagggc tctcttgctc cagcaccact accatagaaa 600
tgcggactca ggcagcccag gtgatccttg cggcttccct gcaggcaacc acggtctcct 660
acacccacat cctggccaga tcgctgagga ttccagaaag gcccagcagc taaaggcctt 720
ccccacctat gcctcccacc tggggtggcg gctcctctaa cctcatcaag ctggtgtcag 780
gggtctactt ggttgggatc cctctgctca aacccatcat ctactgcctg ggaactgcaa 840
catcagggag gccctggcca aactcctcca ggcccttccc 880

<210> 771
<211> 524
<212> DNA
<213> Unknown (H38g620 nucleotide)

<220>
<223> Synthetic construct

<400> 771
ctcctaatgg cagcagacaa ccacacagcg tagaggcgtt tgtcctgcag ggtttctctg 60
aagaccttcc actccagggc tgctgctttg ctttttttcct cctttacctg atggcacttg 120
taggaaacat cctcatggtc atggccatca gtctgaatcc aggcctccac acgccagtgt 180
acttctttct caccaacctg gccctttttag acatcgtctg cacatccatg gacaacagca 240
gagtggtggc tgtgctgtac acagtggtca gccccaccct gaaccccctca cctactccct 300
gcggaacaag gacttatcag tagcactgag gagagtgttt tcttgcatca ggtaaaagga 360
agggaagttt ctagtgtgaa atgttccagg tgttaacaaa ctaatttcaa catatgactt 420
tgagaatctc atgcaagcag caaggaacaa gaaagtaatt aatgccacat atttataaat 480
aatgtgctcc cgcacggggc tgccatcatt caatgtggaa ctcc 524

<210> 772
<211> 951
<212> DNA
<213> Unknown (H38g621 nucleotide)

<220>
<223> Synthetic construct

<400> 772
atggaaagga ccaacgattc cacgtcgaca gaatttttcc tggtagggct ttctgcccac 60
ccaaagctcc agacagtttt cttcgttcta attttgtgga tgtacctgat gatcctgctt 120
ggaaatggag tccttatctc agttatcatc tttgattctc acctgcacac cccccatgtat 180
ttcttcctct gtaatctttc cttcctcgac gtttgctaca caagttcctc tgtcccacta 240
attcttgcca gctttctggc agtaaagaaa aaggtttcct tctctgggtg tatggtgcaa 300
atgtttattt cttttgccat gggggccacg gagtgcatga tcttaggcac gatggcactg 360
gaccgctatg tggccatctg ctacccactg agataccctg tcatcatgag caagggtgcc 420
tatgtggcca tggcagctgg gtcctgggtc actgggcttg tggactcagt agtgcagaca 480
gcttttgcaa tgcagttacc attctgtgct aataatgtca ttaaacattt tgtctgtgaa 540
attctggcta tcttgaaact ggcctgtgct gatatttcaa tcaatgtgat tagtatgaca 600
gggtcgaatc tgattgttct ggttattcca ttgttagtaa tttccatctc ttacatattt 660
attgttgcca ctattctgag gattccttcc actgaaggaa aacataaggc cttctccacc 720
tgctcagccc acctgacagt ggtgattata ttctatggaa ccatcttctt catgtacgca 780
aagcctgagt ctaaagcctc tgttgattca ggtaatgaag acatcattga ggccctcatc 840
tccctttttct atggagtgat gactcccatg cttaatcctc tcatctatag tctgcgaaac 900
aaggatgtaa aggctgctgt caaaaacata ctgtgtagga aaaacttttc t 951

<210> 773
<211> 954
<212> DNA
<213> Unknown (H38g622 nucleotide)

<220>
<223> Synthetic construct

<400> 773
atggaatggg aaaaccaaac cattctggtg gaattttttc tgaagggaca ttctgttcac 60
ccaaggcttg agttactctt ttttgtgcta atcttcataa tgtatgtggt catccttctg 120
gggaatggta ctctcatttt aatcagcatc ttggaccctc accttcacac ccctatgtac 180
ttctttctgg ggaacctctc cttcttggac atctgctaca ccaccacctc tattccctcc 240
acactagtga gcttcctttc agaaagaaag accatttcct tttctggctg tgcagtgcag 300
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gaccgctatg tggctatctg caaccctctg agatatccca tcatcatgag caagaatgcc 420
tatgtaccca tggctgttgg gtcctggttt gcagggattg tcaactctgc agtacaaact 480
acatttgtag tacaattgcc tttctgcagg aagaatgtca tcaatcattt ctcatgtgaa 540
attctagctg tcatgaagtt ggcctgtgct gacatctcag gcaatgagtt cctcatgctt 600
gtggccacaa tattgttcac attgatgcca ctgctcttga tagttatctc ttactcatta 660
atcatttcca gcatcctcaa gattcactcc tctgaggggа gaagcaaagc tttctctacc 720
tgctcagccc atctgactgt ggtcataata ttctatggga ccatcctctt catgtatatg 780
aagcccaagt ctaaagagac acttaattca gatgacttgg atgctaccga caaaattata 840
tccatgttct atggggtgat gactcccatg atgaatcctt taatctacag tcttagaaac 900
aaggatgtga aagaggcagt aaaacaccta ccgaacagaa ggttctttag caag 954

<210> 774
<211> 369
<212> DNA
<213> Unknown (H38g623 nucleotide)

<220>
<223> Synthetic construct

<400> 774
ttcctccttt aggccaacta cagcgcagag gagcgctttc tcctgctggg tttctccgac 60
tggccttccc tgcagccggt cctcttcgcc cttgtcctcc tgtgctacct cctgaccttg 120
acgggcaact cggcgctggt gctgctggcg ggtcgacccg cgcctgcaca cgcccatgta 180
ctacttcctc tccacctggc cttggtagac gcgggcttca ctactagcgt ggtgccgccg 240
ctgctggcca acctggcgga ccagcgctct cgtgcgcgca gccactgcac ggcccagctg 300
tgcgcatcgc tggctctggg ttccgccgaa tgcgtccatc tggcggtgat ggctctgggc 360
cgcgcggtc 369

<210> 775
<211> 945
<212> DNA
<213> Unknown (H38g624 nucleotide)

<220>
<223> Synthetic construct

<400> 775
atgagacaga ataacaatat tacagaattt gtcctcctgg gcttttctca ggatcctggt 60
gtgcaaaaag cattatttgt catgttttta ctcacatact tggtgacagt ggtggggaac 120
ctgctcattg tggtggatat tattgccagc ccttccttgg gttccccaat gtatttcttc 180
cttgcctgcc tgtcatttat agatgctgca tattccacta ccatttctcc caagttaatt 240
gtaggcttat tctgtgataa aaagactatt tccttccaag gttgcatggg ccagctattt 300
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tatgtggcca tctgtaagcc actgcactat ttgaccatca tgaatcgaca ggtttgcttc 420
cttctgttgg tggtggccat gattggaggt tttgtacatt ctgcgtttca aattgttgtg 480
tacagtctcc ctttctgtgg tcccaatgtc attgttcatt tcagttgtga catgcaccca 540
ttactggaac tggcatgcac tgacacctac tttataggcc tcactgttgt tgtcaatagt 600
ggagcaatct gtatggtcat tttcaacctt ctgttaatct cctatggagt catcctaagc 660
tcccttaaaa cttacagtca ggaaaagagg ggtaaagcct tgtctacctg cagctccggc 720
agtaccgttg ttgtcctctt ttttgtaccc tgtattttca tatatgttag acctgtttca 780
aactttccta ctgataagtt catgactgtg ttttatacca ttatcacaca catgctgagt 840

cctttaatat atacgttgag aaattcagag atgagaaatg ctatagaaaa actcttgggt 900
aaaaagttaa ctatatttat tataggagga gtgtccgtcc tcatg 945

<210> 776
<211> 352
<212> DNA
<213> Unknown (H38g625 nucleotide)

<220>
<223> Synthetic construct

<400> 776
cgctgtgcgc cccgcctgct ggaccacttc atctgtgagc tgccggcgtt gctcaagctg 60
gcctgcggag gcgacggaga cactaccgag aaccagatgt tcgccgcccg cgtggtcatc 120
ctgctgctgc cgtttgccgt catcctggcc tcctacggtg ccgtggcccg agactgtctg 180
ttgcatgcgg ttcagcggag gccggcagag aggcggtggg cacgtgtggg tcccacctga 240
cagccgtctg cctgttctac ggctcggcca tctacaccta cctgcagccc gcgcagcata 300
caaccaggca cggggcaagt tcgtatcgct cttctacacc gtggtcacac ct 352

<210> 777
<211> 937
<212> DNA
<213> Unknown (H38g626 nucleotide)

<220>
<223> Synthetic construct

<400> 777
ggactgagta ataatgttac agaatttgtc ctcttgggca acactcagtg tcctgatgtg 60
caaaatgcat tatttgtcat ggttttactc acatacgttg tgagtatggc gggaaacttg 120
cttgctgtgg tggctattat ttccagccct tcctttggct ccccaatgta cttcttcctc 180
acagcctgtt atttatatat gctgcatatt ccaataccat ttctcccaaa ttgattatag 240
gcttactcca tgataaaaag actattttct tcacagcatg catggggcag ctatttatag 300
accacttatt tggtggtgct gaggtcttcc tacttgtggg gatgtcctac gatttctatg 360
tggccatctc taagccactg cactatttga ccatcatgaa tcaacaggtt tgtatccttc 420
tgttggtggt ggctgtgact ggaggttttg tgagttgtgt gtttcaaatt gttgttgtgt 480
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attggaactg gtttgcactg atacctactt tataggtctc actgttgttg ccaatggtct 600
agcaatctgt atggtcgtct tcacccttct actaatctcc tatggagtca tcctaaacaa 660
ctttaaaact tatagtcagg aagggaggct taaagccctg tctgcctgca tctcctacat 720
aacagtcact gtcctgtttc ttgttccctg tattttcctt ttcgttagac ctgtttcgaa 780
ctttcctatt gataaattca tgactgtgtt ttatacagtt atcatacaca tgttgaatcc 840
attaatatac acactgagaa atttagagat gagaattgct gtaaaatcca atgtaaaaaa 900
actctggcat taaaaactta actatagtta gaatgag 937

<210> 778
<211> 970
<212> DNA
<213> Unknown (H38g627 nucleotide)

<220>
<223> Synthetic construct

<400> 778
atgagactga gtagcgatgt tacagcattt gtcctcctag gccttactca ggatcctgat 60
gtgtaaaatg cattatttgt cgtacattta ctcacataca ttatgactat ggtggggaac 120
ctgcccattg tggtgactat tattgccacc cccaccttag gctccccagt gtacttcttc 180
attgtctgct tgtcatttat agatgttgtg tattccacca ccattcctcc caaattgatt 240
gtaagctatc tccatgataa aaagactatt tccttccgag cttgcatggg tcagcccttt 300
tatagaccac ttagttggtg gtgctgaggc cttcattctg ttggtgatgg cctataatcg 360
ctatgtagcc atctgtaagc cactgcacta tttcaccatc atgaattgac aggtttgcat 420

ccttctgttg gtggtggctg tcactgcggg ttttgtgcat tctgtgtttc aaattttagt 480
tgcgtacagt ctccttttct gtggtcccaa tatcattgac cactttttct gtgacatgta 540
cccattattg gaactggcac acactgacac ctactttata ggcctcactg ttgttgccaa 600
tggtggagga atctgtatgg tcttgttcat ccttctacta atctcctgtg ggtcatcct 660
aatctccctt aaaacttata gtcaggaagg gaggcataaa gccctgtcta cctgcagctc 720
ccacattacc gtggttgtcc tgtttttgt tccctgtatt ttcctgtatg ttagacctgt 780
ttcaaacttt cctattaata aattcattac tgtgttttat acagttatca cacccatgtt 840
gaatccatta atatacacat tgagaaactg agagatgaaa aatgctatag gaaacctctg 900
gtgtaaatat taactctaga tagaataaga gggtacattt tcatgtaggt acagggtaat 960
gcaggtaaag 970

<210> 779
<211> 704
<212> DNA
<213> Unknown (H38g628 nucleotide)

<220>
<223> Synthetic construct

<400> 779
cccatgtact tgttcctcgg caatttgtcc ttcattgatc tctgttattc atttgtcttt 60
acccccaaaa tgctgatgag ctttatttca gagaggaaca tcatctcctt tccaggatgc 120
ataactcagc tctttttctt ctgcttttt gtccactctg agtgctatgt gctgacagcc 180
atggcctatg atcgctatgt ggccatctgc aaaccccttc tgtacatggt caccacgtcc 240
ctcagatctg ttctctactg atgcttggtt catatgtgat ggggtttgct ggggccatgg 300
tccacacaga gtgtatgatg aagctcatct tttgtgactc caacgtcatc aaccataaca 360
tgtgtgacat cttcccactg ctccagctct cctgcagcag cacctaggcc aatgagctgg 420
tgatgtctgt tattgtaggc acagttgtta tagtatcaag cctcattatc ttaatctctt 480
atgctttgat tcttttcaat atccttcaca tgtcctcagc cgagggttgg ttcaaagcca 540
tcggtacctg tggctcccac ataataactg ttggcctatt ctatgaattt gggctgatca 600
ctcatgttaa gttatcatct gattggtata tgggtcaggg gaagtttctc tcagtgtttt 660
atacaaatgt ggttcccatg ctgaacccct tcatctactg tctg 704

<210> 780
<211> 924
<212> DNA
<213> Unknown (H38g629 nucleotide)

<220>
<223> Synthetic construct

<400> 780
atgaggcaga ataacaatat tacagaattt gtcctcctgg gcttctctca gtatcctgat 60
gtgcaaaatg cattatttgt catgtttta ctcatatata ttgtgactat ggtggggaac 120
ctgctcattg tggtgtctat tattgccagt cccttttgg gctccccagt gtacttcttc 180
cttgcctgcc tgtcatttat agatgctgtg tattccacca ccatttctcc tgtattgatt 240
gtagacttac tctgtgataa aaagactatt tccttcccag cttgcatggg tcagctattt 300
atagagcact tgtttggtga tactgacgtc ttccttctgg tggtgatggc ctatgatcgc 360
tacgtggcca cctgtaagcc actgcgctat ttgaccatca tgaattgaca ggtttgcatc 420
cttctgttgg tggtggctgt gactggaggt tttctgcatt ctgtgtttca aattttagtt 480
gtgtacagtc tccctttctg tggccccaat gtcatttatc actttttctg taacatatac 540
cctttattgg acctggaatg cactgacacc tacttcgtag gcctcgctgt ggttttcaat 600
ggtggagcaa tctgtatggt catcttcacc cttctactaa tctcctatgg ggtcatccta 660
aactccctta aaacttatag tccggaaggg aggcataaag ctccgtttat ctgcagctcc 720
cactttatca tggttatctt gtttttgtt ccctgtattt tcttatatgt tagacccgtt 780
tcaaactttc ctattgataa attcctgact gtgttttatt cagttatcac acccaagttg 840
aatcctttta tatacatgtt gagaaattca gagatgagaa atgctataga aaatctcttg 900
ggataccaaa gtgggaagac agga 924

<210> 781
<211> 690

<212> DNA
<213> Unknown (H38g630 nucleotide)

<220>
<223> Synthetic construct

<400> 781
cccatgtact tgttcctcgc caacttgtcc ttgcctgaca tcggtttcac ctccagcatg 60
gtccccaaga tgattgtgga catctaatct cacagcagac tcatctccta ggcaggctgc 120
ctgactccca tgtctctctt tgccattttt ggaggcatgg aagagagaca tgctcctgag 180
tgtgatccct atgacccgtt tgtagccatc tgtcaccctc tatatcattc agccatcatg 240
aacccgtgtt tctgtggctt tctagttttg ttgtcttttt tttctcagtc tcttttagac 300
gcccaggtgc acaacttgat tgccttacaa atgacctgct tcaaggatgt ggaaattcct 360
aatttcttct gggaaccttc tcaactcccc catcttgcat gttgcgacac cttcaccaat 420
aacataatca tgtattcccc tgctgccata tttggtttc ttcccatctc ggggaccctt 480
ttctcttact ataagattgt ttcctccatt cggagggttt catcatcagg tgggaagtat 540
aaggcctgct ccacctgtgg gtctcacctg tcagttgttt gctgatttta tggaacaggc 600
ttttgggggt acctcagttc agatgtgtca tcttccccgg gaaaggctgc agtggcctca 660
gtgatgtaca cggtggtcac ccccatgctg 690

<210> 782
<211> 681
<212> DNA
<213> Unknown (H38g632 nucleotide)

<220>
<223> Synthetic construct

<400> 782
tctttcctgg agattggctt caacctagtc attgtgccca aaatgctggg gaccctgctt 60
gcccaggaca caaccatctc cttccttggc tgtgccactc agatgtattt cttcttcttc 120
tttggggtag ctgaatgctt cctcctggct accatggcat atgaccgcta tgtggccatc 180
tgcagtccct tgcactaccc agtcatcatg aaccaaagga cacgggccaa actggctgct 240
gcttcctggt tcccaggctt tcctgtagct actgtgcaga ccacatggct cttcagtttt 300
ccattctgtg gcaccaacaa ggtgaaccac ttcttctgtg acagcccgcc tgtgctgaag 360
ctggtctgtg cagacacagc actgtttgag atctacgcca tcgtcggaac cattctggtg 420
gtcatgatcc cctgcttgct gatcttgtgt tcctatactc gcattgctgc tgctatcctc 480
aagatcccat cagctaaagg gaagcataaa gccttctcta cgtgctcctc acacctcctt 540
gttgtctctc ttttctatat atcattaagc ctcacgtact tccggcctaa atcaaataat 600
tcacctgagg gcaagaagct gctatcattg tcgtacactg ttatgactcc catgctgaac 660
ccctttcatc tactgtcctg g 681

<210> 783
<211> 576
<212> DNA
<213> Unknown (H38g633 nucleotide)

<220>
<223> Synthetic construct

<400> 783
atggtcacag agttcctcct actgggattt ctcctgggcc caaggattca gatgctcctc 60
tttgggctct tctccctgtt ctatgtcttc accctgctgg ggaatgggac catcctgggg 120
ctcatctcac tggactccag actccacacc cccatgtact tcttcctctc acacctggcg 180
gtcgtcgaca tcgcctacgc ctgcaacacg gtgccccgga tgctggtgaa cctcctgcat 240
ccagccaagc ccatctcctt tgcgggccgc atgatgcaga cctttctgtt ttccactttt 300
gctgtcacag aatgtctcct cctggtggtg atgtcctatg atctgtacgt ggccatctgc 360
cacccccctcc gatatttcat catcatgacc tggaaagtct gcatcactct ggccatcact 420
tcctggacat gtggctccct cctggctatg gtccatgtga gcctcatcct aagactgccc 480
ttttgtgggc ctcgtgaaat caaccactty ytctgtgaaa tcctkkctgt cctcaggctg 540
ggctgtgctg atacctggct caaccaggtg gtcatc 576

<210> 784
<211> 924
<212> DNA
<213> Unknown (H38g634 nucleotide)

<220>
<223> Synthetic construct

<400> 784
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tatgcagacc cacagaatct aacagatgtc tcwatattcc tcstcctaga actctcagag      60
gatccagaac tgcagccagt ccttgctggg ctgttcctgt ccatgtgcct ggtcacggtg     120
ctggggaacc tgctcatcat cctggccatc agccctgact cccacctcca cacccccatg     180
tacttcttcc tctccaacct gtccttgcct gacatcggtt tcacctccac cacggtcccc     240
aagatgattg tggacatcca gtctcacagc agagtcatct cctatgcagg ctgcctgact     300
cagatgtctc tctttgccat ttttggaggc atggaagaga gacatgctcc tgagtgtgat     360
ggcctatgac tggtttgtag ccatctgtca cccgctatat cattcaccat catgaacccg     420
tgtttctgtg cctttctagt tttgttgtct tttttttct cagtctttta gactcccagc      480
tgcacaactt gattgcctta caagtgacct gcttcaagga tgtggaaatt cctaatttct     540
tctgtgaccc ttctcaactc ccccatcttg catgttgtga caccttcacc aataacataa     600
tcatgtattt ccctgctgcc atatttggtt ttcttcccat ctcggggacc cttttctctt     660
actataaaat tgtttcctcc attctgaggg tttcatcatc aggtgggaag tataaagcct     720
tctccacctg tgggtctcac ctgtcagttg tttgctgatt ttatggaaga ggtgttggag     780
ggtacctcag ttcagatgtg tcatcttccc ccagaaaggg tgcagtggcc tgcagtgatg     840
tacacggtgg tcacctccat gctcaacccc tttatctaca gcctgagaaa cagggatatt     900
aaaagtgtct tgcggcggcc gcaa                                            924
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<210> 785
<211> 714
<212> DNA
<213> Unknown (H38g635 nucleotide)

<220>
<223> Synthetic construct

<400> 785
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atgtacttgt tcctgaggaa tctgtccttg cctgacatcg gtttcacctc caccattgtc      60
cccaagatga ttgtggacat ccagtctcac agcagagtga tctcctatgc aggccgcctg     120
actcagatgt ctctctttgc catttttgga ggcatggaag acaacatgct cctgagtgtg     180
atggcctatg accggtttgt agccatctgt caccctctat atcattcagc catcatgaat     240
ccgtgtttct gtggcttcct actttgttg tcctttttttt tttttctcag tcttttagac     300
acccagctgc acaacttgat tgctttacaa atgacctgct tcaaggatgt ggaaattcct     360
aatttcttct gtgacccttc tcaactcccc catcttgcat gttgtgacac cttcaccaat     420
aacatcatcg tgtatttccc tgctgtcata tttgttttcc ttcccatctc ggggaccctt     480
ttctctttaa aactgtttgt ttcctccatt ctgagggttt catcatcagg cgggaagtat     540
aaaaccttct ccacctgtgg gtctcacctg tcagttattt gcttatttta tggaacaggt     600
gttggagggt acctcagttc agatgtgtca tcttccctga gaaaggctgc agtggcctca     660
gtgatgtaca agatggtcac cccatgctg aacccttca tttacaccct gcgg             714
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<210> 786
<211> 962
<212> DNA
<213> Unknown (H38g636 nucleotide)

<220>
<223> Synthetic construct

<400> 786
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ttcaaacgtt ccataacatt cacacctaca acattcactc tcgttggcat cccgggactg      60
gaggcagaac attatgtgga tatccatccc cttctgcctg atatacacca tcatctttcc     120
gggaaatggc atcattcttc acatcatccg aattgactct tccttgcacc aacccatgta     180
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ctattttctg gccatgccgg cctttgttga acttggtgtc tctgcttcca ccatgcccac 240
tgtgttaagc atattcctct ttggcattaa cgatgtcagt tttggtggtt gcctgctcca 300
gatgttttct atgcactctt tcactcttat ggagtcaggt gtccttctgg caatgtcagt 360
ggaccgcttt gtggccatct acagcccact gcgctacaca accattctga caattgcctg 420
catttctggg atgggtgccg ccattgcctt gcgcagtgta atgcttatgc tcccactgct 480
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ccactcagat ctgatcaaat tgccctgtgg agacacacgc cccaatagca tcctggctct 600
atttgtcatt accttcacat ttggactgga cttattgttc attgtggttt cttatgtgct 660
gattcttcat acagtactgg aaatagcttc tggagcaggg cgtggcaggc actcaacaca 720
tgtgtgtcgc acatatgtgc tgtgcttgtg tactatgtgc ccatgatcag cctctcctga 780
tgcaccgctt tggacggcat ttacctccac ttttccagac tgtcacggcc aatgcttacc 840
tcttctttcc tcctgtggtc aaccccattg tctatagtat caaaatcaaa gaaattcgca 900
acagcgttgt tcttacacta tccaggaaga ggggtgagtt ctaatggaga ccgaagatac 960
cc 962

<210> 787
<211> 872
<212> DNA
<213> Unknown (H38g637 nucleotide)

<220>
<223> Synthetic construct

<400> 787
acctcagagg atccagaacg gcagctggtc cttgctggac tgttcctgtc catgtgcctg 60
gtcatggtgc tggggaacct gctcatcatc cggccatgag ccctgactcc cacctccaca 120
cctccatgta cttcttcctc tccaacctgt ccttgcctga catcggtttc acctccacca 180
cggtccccca gatgactgtg gacatccagt ctcgcagcag agtcatctcc tatgcaggct 240
gcctgactca gaagtctctc tttgccattt ttggaggcac ggaagagaga catgctcctg 300
agtgtgatgg cctatgaccg gtttgtagcc atctgtcacc ctctatatca ttcagccatc 360
atgaacctgt gtttctgtgg cttcctagtt ttgctgtctt ttttttttct cagtctttta 420
gactcccagc tgtacaactt gattgcctta ctaatgacct gcttcaagga ggtggacatt 480
cctaatttct tctgtgacct ttctcaactc ccccatcttg ccgttgtgac accttcatca 540
ataacataat catgtatttc cctactgcca tatttggttt tcttcccatc tcggggaccc 600
ttttctctta ctataaaatt gtttcctcca ttctgagggt ttcatcatca ggtgggaagt 660
ataaagcctt ctccacctgt gggtctcacc tgtcagttgt ttgctgattt tatggaagag 720
gtgttggagg gtacctcagt tcagatgtgt catcttcccc cagaaagggt gcagtggctg 780
cagtgatgta cacggtggtc acctccatgc tcaacccctt tatctacagc ctgggaaaca 840
gggatattaa aagtgtcttg cggcggccgc aa 872

<210> 788
<211> 646
<212> DNA
<213> Unknown (H38g638 nucleotide)

<220>
<223> Synthetic construct

<400> 788
ctagtggact tttgttactc ttcagctgtc actcccacag tcatagctgg gctcgttata 60
ggagacaagg tcatctctta caatgcatgt gctgctcaaa tgttcttttt tgcagccttt 120
gccactgtgg aaaatttcct cttggcctca atggcctatg accgctatga tgcagtgtgc 180
aaacccctac attacaccac caccatgaca acaagtgtgt gtgcatgtct ggctataatc 240
tgttatgtct gtggtttctt gaatgcctcc atacacattg gggaaacatt gtctctcttt 300
ctgtatgtcc aatgaagtcc attgcttttt ctgtgatgtt ccaccagtca tggctctgtc 360
ttgctgtgat agacatgtga atgagctagt tctcatttat gtagccagtt tcaatatctt 420
ttctgccatc ctagttatct tgatctccta cctattcata tttatcacca tcctaaagat 480
gcactcagct tcaggatacc agaaggcttt gtccacctgt gcctcccacc tcactgcagt 540
catcatcttc tatgggacta ttatcttcat gtacttacag cccagctctg gtcactccat 600
ggacacagac aaactggcat ctgtgttcta tactatgatc atcccc 646

<210> 789
<211> 648
<212> DNA
<213> Unknown (H38g639 nucleotide)

<220>
<223> Synthetic construct

<400> 789
tttgtggaca tctgcttctc ctgcaccacc gtccccaaga tgctggccaa tcacatactc 60
gagactcaga ccatctcctt ctgtggctgt ctcacacaga tgtatttcgt tttcatgttc 120
gtggacacgg acaatttcct cctagctgtg atggcctatg accactttgt cgccgtgtgc 180
caccccttac attacacagc aaagatgacc catcagctct gtgccctgct ggttgctgga 240
ttatgggtgg ttgccaacct gaatgtcctt ctgcacaccc tgctgatggc tccactctca 300
ttctgtgcag acaatgccat cactcacttc ttctgcgatg tgactcccct actgaaactc 360
tcctgctcag acacacacct caatgaggtc ataatcctta gtgagggtgc cctggtcatg 420
atcaccccat ttctttgcaa cctggcgtct tatatgcaca tcacctgcac tggcctgaag 480
ggcccatcca caaagggaag gtggaaagcc ttctccacct gtggctctca cctggctgtg 540
ggtctcctct tctacagcac catcactgct gtgtatttta accctctgtc ctcccactca 600
gctgcgaaag acactatggc tactgtgttg tatacagtag tgactccc 648

<210> 790
<211> 471
<212> DNA
<213> Unknown (H38g640 nucleotide)

<220>
<223> Synthetic construct

<400> 790
atctgcagcc ccttgctgta caatgtcatc atgtcctatc accactgctt ctggctcaca 60
gtgggagttt acattttagg catccttgga tctacaattc acaccggctt tatgttgaga 120
ctctttttgt gcaagactaa tgtgattaac cattattttt gtgatctctt ccctctcttg 180
gggctctcct gctccagcac ctacatcaat gaattactgg ttctggtctt gagtgcattt 240
aacatcctga cgcctgcctt aaccatcctt gcttcttaca tctttatcat tgccagcatc 300
ctccgcattc gctccactga gggcaggtcc aaagccttca gcacttgcag ctccccacatc 360
ttggctgttg ctggtttctt tgggtctgca gcattcatgt acctgcagcc atcatctgtc 420
agctccatgg accaggggaa agtgtcctct gtgttttata ctattgttgt g 471

<210> 791
<211> 975
<212> DNA
<213> Unknown (H38g641 nucleotide)

<220>
<223> Synthetic construct

<400> 791
atgaagactt tgtgttcctt tcttcagatc agcagaaata tgcatcaaga aaaccaaacc 60
accatcactg aattcattct cctgggactc tccaaccagg ctgaacatca aaacctcctc 120
tttgtgcttt tcctgagtat gtatgtggtc actgtggttg ggaacgggct catcattgtg 180
gctatcagct tggatatata ccttcacacc cccatgtatc tcttccttgc ctacctatcc 240
tttgctgata tttcctccat ttccaactca gtccccaaaa tgctggtgaa tattcaaacc 300
aacagccaat ccatctctta tgagagctgc atcacacaga tgtacttttc tattgtgttt 360
gtcgtcactg acaatttgct tttggggacc atggccttcg accactttgt ggcgatctgc 420
caccctctga actatacaac tttcatgcgg gccaggttcg gcactttgct cacagtcatc 480
tcgtggttcc tcagtaatat tattgctctt acacacaccc ttctgctcat tcaattgctc 540
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tcctgttcag atacaatgat caatgagctt gtgttgttta ttgtgggttt atcagttatc 660
atcttcccct ttgtactcat cttcttctcc tatgtctgca tcatcagagc tgtcctggga 720
gtatcatcca cacagggaaa gtggaaagcc ttctccactt gtggctctca cctgacaatt 780

gcattactgt tctacggaac cactgtaggc gtgtactttt tcccctcctc cactcaccct 840
gaggacactg ataagattgg tgctgtccta ttcactgtgg tgacacccat gatgaacccc 900
ttcatctaca gcttgaggaa taaggatatg aaaggtgccc tgagaaagct catcaataga 960
aaaatttctt ccctt 975

<210> 792
<211> 943
<212> DNA
<213> Unknown (H38g642 nucleotide)

<220>
<223> Synthetic construct

<400> 792
atgagaccta ataacagcat tacagaattt gtcctcctgg gattctctca ggatcctggt 60
atgcaaaaag aattatttgt catgttttta ttcacatacg ttgtgactgt gttggggaac 120
cagctcattg tggtgactat cattgccagc ccttccttgg gctccccaat gtacttcttc 180
cttgcctgcc tgtcatttat agatgctgca tatttcactg tcatttctcc caaattgatt 240
gtggacttac tctgtgataa aaagactatt tccttccaaa cgttcatggg ccaactattt 300
atagaccact tctttggtgg tgcagaggcc ttccttctgg tggtgatggc ctatgatcgc 360
tatgttgcca tctgtaagac attgcactat ttgaccatca tgactcgaca ggtttgtatc 420
cttgcattgc tggtggctgc gacaggcggt tttgtgcatt ctgtgtttca aattgttgtt 480
gtgtacagtc tccctttctg tggcgccaat gtcattgatc atttcagttg tgacatgtat 540
ccattattgg aactggcatg aactgacacc tactttatag gcctcactgt tgttttcagt 600
ggtggagcac tctgtatggt catcttcacc cttctaataa tttcctatag ggtcatccta 660
aactccctta aaacttacac tcaggaaggg agcataaagc cctgtctacc tgcagctccc 720
acatcactgt gattgttctc tttttattcc ctgtatttcc atatatgtga gacctgtttc 780
aaacttttct attgacacat tcatgactgt cttttataca gttatcacac ccaagttgaa 840
tcctttaata tacactttca gaaattcaga gatgagaaat gttatagaaa aactcttggt 900
gaaaaaggta actatattta gaataacagg gtccatcctc atg 943

<210> 793
<211> 942
<212> DNA
<213> Unknown (H38g643 nucleotide)

<220>
<223> Synthetic construct

<400> 793
atgagacaga ataaaaataa tacagaattt gtcctcttgg gcttctctca ggatcctgat 60
gtgcaaatgc attatttgtc atgttttact cacataattg gtgacaacag tggggaacct 120
gctcattgtg gtgactatta ttgccagccc ttccttgggc tccccagtgt atttctgact 180
tgcctgtctg tcatgtatag atgctgcata ttccactacc atttctccca aactgattgt 240
agagttactc attgataaaa agactatttc cttccgagct tgcatgggcc agctatttat 300
agaacacttg tttggtggta ctgagatctt cattctgatg atgatggcct gtgatcgcta 360
tgtggacatc tgtaagccac tgcactattt gaccatcatg aattgacagg tttgcatcct 420
tctgttggtg ttggctgtga caggaggttt tgtacattct atgtttcaaa ctgttgttgt 480
gtacaatctc cctttctctg gccccaatgt cattgacatt gaccactttg tctgtgacat 540
gtacccatta ttggaactgg cgttcactga tacctacttt ataggcctca ctgttgttgt 600
caatggtgga gcaatgtgta tggtcatctt caccattcta ctaatatcct acggaatcat 660
cctaaactct cttaaaactt atagtcagga agggaggtgt aaagccctgt ctacctgcag 720
cccccacata accgtggttg tcctcttttt tgttccctgt attttcatat atgttagacc 780
tgtttcaacc tttcctattg ataaattcat gactgtgttt tatacagtta tcacacccat 840
gttgaatcct ttaatataca cgttgagaaa ttcagagatg agaaactcta tagaaaatct 900
cttgtgtaaa aaagctatct gtagttagaa taagagtgtc cc 942

<210> 794
<211> 945
<212> DNA
<213> Unknown (H38g644 nucleotide)

<220>
<223> Synthetic construct

<400> 794
gagtaaatga gacagaataa cagtagtaca gaatttgttc tcctgggctt ttctcaggat 60
cctgatgtgc aaaatgcgct atttgtcatg tttttactga catacattgt gacaatggtg 120
gggaacctac tcattgtggt gactattatt gccagccctt ccttgggctc cccaatgtac 180
tttttccttg cccacctgtc atttatagat gctgtgtatt ccaccaccat ttctcctgta 240
ttgattgtag acttactctg tgacaaaaag acgatttcct tctgagcttg catgggacaa 300
ctgtttatag accacttatt tggtggttct gaggtcttcc ttctggtggt gatggcctgt 360
gatcgctgtg tggccatctg taagccactg cactatttga ccatcatgaa tcgacaggtt 420
tgcattcttc tcttggtgtt ggctgtgact ggaggttttg tgcatcctgt atttcaagtt 480
gttgttgtgt acagtctccc tttctgtggc cccaatgtca ttgaccactt tttctgtgac 540
atataccctt tatttggaac tggcatgcac tgacacctac tttataggcc tcactgtggt 600
tttcaatggt ggagcaatgc gtatggtcat cctcaccctt ctactagtct tctatggagt 660
catcctaaac tcccttaaaa cttacagtca ggaagggagg cataaagccc tgtctacctg 720
cagctcccat gttaccgtgg ttatcttgtt ttttgcttcc tgtattttca tatatgttag 780
acctgtttca aattttctgt tgataaattc atgactgtgt tttatacggt tatcacaccc 840
atgttgaatc cttttatatg catgttgaga aattcagaga tgagaaatgc tatagaaaaa 900
ctcctgtgta aaatgaactg tagttagaat aagagtgttc cttcc 945

<210> 795
<211> 939
<212> DNA
<213> Unknown (H38g645 nucleotide)

<220>
<223> Synthetic construct

<400> 795
atgggactga gtaacaatgt tacagaactt ttcctcctgg gcctcactca ggatctcgat 60
gtgcaaaatg cattatttgt catgttttta ctaacataca ttgtgactat ggtggggaac 120
ctgctcattg tggtgactat tattgccacc ccatccttgg gctccccaat gtactttttc 180
cttgcctgcc tgtcatttat agatgctgtg tattccacca ccatttatcc caaattggtt 240
gtagactaac tccataatta aaagactatt ttgttcccaa cttgcatggg ccagccactt 300
acagaccact tatttggtgg tgttgaggtc tttttttctg ttggtgatgg cctgtgatcg 360
ctatgtggcc atctgtaagc cactgcacta ttttaccatc atgaatcgac aggttttcat 420
ccttctgttg gtagtggctg tgactggagt tttgtgcgtt ctgtgttcca aattgttgtt 480
gtgtacagtc tccctttctg tggccccaat gtcattgacc acttttttctg taacatgtac 540
ccattaatgg aaatggcatg aactgacacc tactttatag gcctcactgt ggttttcaag 600
gttgaagcaa tctgtgtggt catcttcacc cttctactaa tctcctctgg cgtcatccta 660
atctccctta aaacttacag tcaggaaggg aggcataaag ccctgtttac ctgcagctcc 720
cgcattactg tagttgtcct cttttttgtt ccctgtattt tcatgtatgt tagacctgtt 780
tttaacttcc ccattgataa atttattatt gtgttttata cagttatcac acccatgctg 840
aatcctttaa tatacatgtt gagaaattca tagacgagaa atgctataga aaacccctag 900
tgtaaaaaat taactgtaga tagaataaga gtgtacatc 939

<210> 796
<211> 945
<212> DNA
<213> Unknown (H38g646 nucleotide)

<220>
<223> Synthetic construct

<400> 796
atgagaccta ataacagtat tacagaattt gtcctcctgg gcttttcaca ggatcctgat 60
atgcaaaaca cattatttgt catgttttta ctcacataca ttgtgacagt ggtggggaac 120
ctactcgttg cggtgactat tattgtcagc ccttccttga gctccccaat gtaattcttc 180
cttgcttgcc tgtcattaat agatgctgta ttatccacca ccatttctcc catattgatt 240

gtagacctac tctgtgacaa aaagactatt tccttcccag cttgcatggg ccagctattt 300
acagaccact tgtttggtgg aactgagatc ttccttctgg tggtgatggc ctatgatcgc 360
tacgtggcca tctgtaagcc actgcactat ttaaccatca tgaatcgaca ggtttccatc 420
cttctgttgg tggtggccat gactggaggt ttccttcatt ctgtgtttca aattgctgtt 480
ctgtacagtc tccctttctg tggccccaat gtcattgacc actttttctg tgacatgtac 540
ccattattgg aactggcgtg cactgacacc tactctatag gcctcactgt agttttcagt 600
ggtggagcaa tgtgtatggt catcttcgcc cttctactaa tctcctatgg agtcagccta 660
aactccctta aaacttatag tcaggaaggg aggcgtaaag ccctgtctac ctgcagctcg 720
cacatcaccg tggttgtcct ctttttttgtt ccctgtattt tcatgtatgt tagacctgtc 780
tcaaacttcc ctattgataa attcgttact gtgttttata cagttatcac acccatgctg 840
aatccttttt tatacacgtt gagaaattca gagatgataa atgctataaa acacctgttg 900
tgtaagaagc taactatagt tagaataaga gtgtccctcc tcatg 945

<210> 797
<211> 967
<212> DNA
<213> Unknown (H38g647 nucleotide)

<220>
<223> Synthetic construct

<400> 797
atgggatcta gtaacaatgt tacagaattt gtcctcctgg ccctcactca ggctcctgat 60
gtgcaaaaag tattatttgt aatgttttta ttcacataca ttgtgactat ggtgggcaac 120
ctgctcactg tggtgaccat ttttgccctc cctctttggg ctccccagtg taactcttcc 180
ttgcctgcct gtcattgatg gatgccgtat attccacttc attttctcct aaactgatga 240
tagacttact ctgcgataaa aaagactgtt tccttcccgg cttgcatggg ccagctattt 300
gcggaccacc tatttggtgg tgttgaggtc tttcttttcg tggggatggc ctatgatcac 360
tatgtggcca tctctaagcc actgcactat ttgatcatcg tgaatcgact ggtttgcatc 420
cttctgttgg tggtggccgt gactggagga ttttgaattc tatgtttctt ttttttaaa 480
tttatttatt tttttatgtg aattctatgt ttcaaattgt cgttgtgtac agtctccctt 540
tctgtggctc caatgtcatt gaccacattg tctgtgacat gtacccatta ctggaactgg 600
catgcgctga cacctacttt atagggctca ctgtgattgc caatggtgga gcaatctgta 660
tggtcatctt ctgccttcta ctaacctcct atggagtcat cctaaacttc cttaaaactt 720
atagtcaaga agggaggcat agaaccctgt ctacctgcag ctcccacatt actgtggttg 780
tcctcttttt tgttccctgt attttcatgt atgttagacc tgtttcaaac ttccctattg 840
ataaattcat tactgagttt tatacagtta tcacccccaa gttgaatcca ttaatccaac 900
cactgagaaa ttgagaaatg agaattacta tgaagaaact ctggtgttaa acctgaacta 960
tagttag 967

<210> 798
<211> 930
<212> DNA
<213> Unknown (H38g648 nucleotide)

<220>
<223> Synthetic construct

<400> 798
atgaaaaata agaacaatgt gactgaattt atcctcttag ggctcacaca gaaccctgag 60
gggcaaaggg ttttatttgt cacattctta ctaatctaca tggtgacgat aatgggcaac 120
ctgcttatca tagtgaccat catggccagc cagtccctgg gttcccccat gtactttttt 180
ctggcttctt tatcattcat agataccgtc tattctactg catttgctcc caaaatgatt 240
gttgacttgc tctctgagaa aaagaccatt tcctttcagg gttgtatggc tcaacttttt 300
atggatcatt tatttgctgg tgctgaagtc attcttctgg tggtaatggc ctatgatcga 360
tacatggcca tctgtaagcc tcttcatgaa ttgatcacca tgaatcgtcg agtctgtgtt 420
cttatgctgt tggcggcctg gattggaggc tttcttcact cattggttca atttctcttt 480
atttatcagc tccctttctg tggacccaat gtcattgaca acttcctgtg tgatttgtat 540
cccttattga aacttgcttg caccaatacc tatgtcactg ggctttctat gatagctaat 600
ggaggagcga tttgtgctgt caccttcttc actatcctgc tttcctatgg ggtcatatta 660
cactctctta agactcagag tttggaaggg aaacgaaaag ctttctacac ctgtgcatcc 720

cacgtcactg tggtcatttt attctttgtc ccctgtatct tcttgtatgc aaggcccaat 780
tctacttttc ccattgataa atccatgact gtagttctaa cttttataac tcccatgctg 840
aacccactaa tctataccct gaagaatgca gaaatgaaaa gtgccatgag gaaactttgg 900
agtaaaaaag taagcttagc tgggaaatgg 930

<210> 799
<211> 825
<212> DNA
<213> Unknown (H38g649 nucleotide)

<220>
<223> Synthetic construct

<400> 799
atggtgggaa acctcctcat ttgggtgact actattggca gcccctcctt gggctcccta 60
atgtacttct tccttgccta cttgtcactt atggatgcca tatattccac tgccatgtca 120
cccaaattga tgatagactt actctgtgat aaaatcgcta tttccttgtc agcttgcatg 180
ggtcagctct tcatagaaca cttacttggt ggtgcagagg tcttcctttt ggtggtgatg 240
gcctatgatc gctatgtggc tatctctaag ccgctgcact atttgaacat catgaatcga 300
ctggtttgca tccttctgtt ggtggtggcc atgattggag gttttgtgca ctctgtggtt 360
caaattgtct ttctgtacag tctaccaatc tgtggcccca atgttattga ccactctgtc 420
tgtgacatgt acccattgtt ggaactgttg tgccttgaca cctactttat aggactcact 480
gtggttgcca atggtggaat aatttgtatg gtcatcttta cctttctgct aatctcctgt 540
ggagtcatcc taaacttcct taaaacttac agtcaggaag agaggcataa agccctgcct 600
acctgcatct cccacatcat tgtggttgcc ctcgtttttg ttccctgtat ttttatgtat 660
gttagacccg tttccaactt tccctttgat aaattaatga ctgtgtttta ttcaattatc 720
acactcatgt tgaatccttt aatatactcg ttgagacaat cagagatgaa aaatgctatg 780
aaaaatctct ggtgtgaaaa gttaagtata gttagaaaaa gagta 825

<210> 800
<211> 654
<212> DNA
<213> Unknown (H38g650 nucleotide)

<220>
<223> Synthetic construct

<400> 800
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagcagac tcatctccta ggcaggctgc ctgactccca tgtctctctt tgccatcttt 120
ggaggcatgg aagagagaca tgctcctgag tgtgatccct atgacccgtt tgtagccatc 180
tgtcaccctc tatatcattc agccatcatg aacccgtgtt tctgtggctt tctagttttg 240
ttgtcttttt tttctcagtc tcttttagac gcccaggtgc acaacttgat tgccttacaa 300
atgacctgct tcaaggatgt ggaaattcct aatttcttct gggaaccttc tcaactcccc 360
catcttgcat gttgcgacac cttcaccaat aacataatca tgtattcccc tgctgccata 420
tttggttttc ttcccatctc ggggaccctt ttctcttact ataagattgt ttcctccatt 480
ctgagggttt cttcatcagg tgggaagtat aaagccctct ccacctgtgg gtctcgcctg 540
tcagttgttt gctgagttta tggaacaggc gttggagagt acctcggttc agatgtgtca 600
tcttccccga gaaagggtgc agtggcctca gtgatgtaca cggtggtcac cccc 654

<210> 801
<211> 648
<212> DNA
<213> Unknown (H38g651 nucleotide)

<220>
<223> Synthetic construct

<400> 801
tcaatggccc tcatgctcat ctgcaccacc ggacccaaga ggccttcaac tacctgtctg 60
gcagcaagtc ccatttctat ggctgttgtg ccacacaaat ttcttctat acatcactgc 120

ttggctctga gtgctttctt ttggctgtta tggcttatga ccgctacact gccatttgcc 180
accctctaag atacaccaat ctcatgagcc ctaaaatttg tggacttatg actgcctttt 240
cctggatcct gggctctacg gatggaatta ttgatgttgt agcaacattt tccttctcct 300
actgtgggtc tcgggaaata gcccacttct tctgtgactt ccccctccct actaatcctc 360
tcatgcagtg acacatcaat atttgaaaag attcttttca tctgctgtat agtaatgatt 420
gttttccctg ttgcaatcat cattgcttcc tatgctcgag ttatcctggc tgtcattcac 480
atgggatctg gagagggtcg tcgcaaagct tttactactt gttcctctca cctcttggtg 540
gtgggaatgt actatggagc agctttgttc atgtacatac ggcccacatc tgatcgctcc 600
ccaacacagg acaagatggt gtctgtattc tacaccatcc tcactccc 648

<210> 802
<211> 635
<212> DNA
<213> Unknown (H38g652 nucleotide)

<220>
<223> Synthetic construct

<400> 802
tttgtggaca ttgcctgttc ctcagccaca gcacccaaga tgattgaaga ctttgtttct 60
gagaaaaaga ctatttccta ctggggctgt ataactcaga tgtttacctt ccactttttt 120
ggttgtgctg agatttttgt tttgactgtc atggcttttg atcgctatgc tgctatctgc 180
caacccctcc gttacactgt catcatgagt gctaatgctt atactgtgct ggcatcactg 240
tcctggttgg gggccctggg tcattccttt gttcagaccc tcctgacctt ccagctgccc 300
ttctgtaatg ctcaggttat agaacattac ttttgtgatg tccacccagt cctaaaactt 360
gcctgtgctg atacaactct ggtaaatatg ttggtggttg ccaacagtgg tctcatctcc 420
ctggggtgtt tcctcattct tttggcctcc tacacagtca ttctgtttag tcttcaaaaa 480
cagtctgcag agagctgaca caaagttctc tctacctgtg gatctcatct gactatagta 540
actttcttct ttgttccgtg tatctttatt tatctccatc cactactttc ccattggata 600
aagctgtgtc tgtgttctat accaccatca cccca 635

<210> 803
<211> 670
<212> DNA
<213> Unknown (H38g653 nucleotide)

<220>
<223> Synthetic construct

<400> 803
ttgcctgaca tcggtttcac ctccacacgg tccccaagat gattgtggac atccagtctc 60
acagcagagt catctcctat gcaggctgcc tgactcagat gtctctcttt gccatttttt 120
gaggcaggga agagagacat gctcctgagt gtgatggcct acgaccagtt tgtagccatc 180
tgtcaccctc catatcgttc agccatcttg aacccgtgtt tctgtggctt cctagatttg 240
ttgtccttgt tttttttct ttttttttt tctcagtctt ttagactccc agctgcacaa 300
cttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attcctaatt tcttctggga 360
accttctcaa ctcccccatc ttgcatgttg tgacatcttc accaggaaca tcaacctgta 420
tttccctgct gccatatttg gttttcttcc catctcgggg acccttttct cttactctaa 480
aattgtttcc tccattctga gggtttcatc gtcaggtggg aggtataaag ccctctccac 540
ctgtgggtct cacgtgtcag ttgtttgctg agtttatgga acaggcgttg gagggtacct 600
cagttcggat gtgtcatttt cccccagaaa gggtgcagtg gcctcagtga tgtacgcggt 660
tgtcaccccc 670

<210> 804
<211> 648
<212> DNA
<213> Unknown (H38g654 nucleotide)

<220>
<223> Synthetic construct

<400> 804
ctcctggatc tttgttacac cacatgtaca gtcccacaaa tgctagtaaa tttatgcagc 60
atcaggaaag taatcagtta tcgtggctgt gtagcccagc ttttcatatt tctggccttg 120
ggggctactg aatatcttct cctggccgtc atgtcctttg ataggtttgt agctatttgt 180
cggcctctcc attactcagt tatcatgcac cagagactct gcctccagtt ggcagctgca 240
tccagggtta ctggttttag taactcagtg tggttgtcta ccctgactct ccagctgcca 300
ctctgtgacc cctatgtgat agaccacttt ctctgtgaag tccctgcact gctcaagtta 360
tcttgtgttg agacaacagc aaatgaggct gaactattcc ttgtcagtga gctcttccat 420
ctaatacccc tgacactcat ccttatatca tatgctttta ttgtccgagc agtattgagg 480
atacagtctg ctgaaggtcg acaaaaagca tttgggacat gtggttccca tctaattgtg 540
gtgtctcttt ttaatagtac agccgtctct gtgtacctgc aaccaccttc gcccagctcc 600
aaggaccaag gaaagatggt ttctctcttc tatggaatca ttgcaccc 648

<210> 805
<211> 655
<212> DNA
<213> Unknown (H38g655 nucleotide)

<220>
<223> Synthetic construct

<400> 805
ttgcctgaca tcggtttcac ctccaccatt gtccccaaga tgattgtgga catccagtct 60
cacagcagag tgatctccta tgcaggccgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagacagaca tgctcctgag tgtgatggcc tatgaccggt tcgtagccat 180
ctgtcaccct ctatatcatt cagccatcat gaatccgtgt ttctgtggct tcctactttt 240
gttgtctttt ttttttctca gtcttttaga cgcccagctg cacaacttga ttgccttaca 300
aatgacctgc ttcaaggatg tggaaattcc taatttcttc tgtgaccctt ctcaactccc 360
ccatcttgca tgttgtgaca ccttcaccaa taacataatc atgtattttc ctgctgccat 420
atttggtttt cttcccatct cggggaccct tttctcttac gataaaattg tttcctccat 480
tctgagggtt tcatcatcag gtgggaagta taaagccttc tccacctatg ggtctcacct 540
gtcagatgtt tcctgatttt atggaacagg cgttggaggg tacctcagtt cagatgtgtc 600
atcttccccg agaaagactg cagtggcctc agtgatgtac acagtggtca ccccc 655

<210> 806
<211> 662
<212> DNA
<213> Unknown (H38g656 nucleotide)

<220>
<223> Synthetic construct

<400> 806
tttcctgaca tcggtttcac ctccaccaca gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ccgactcaga tgtctctctt tgccattttt 120
ggagacacgg aagagagaca tgttcctgag tgtggtggcc tatgaccggt ttgtagccat 180
ctgtcacccc ctatatcgtt cagccatctt aaacccctgt ttctgtggct tcctagattc 240
gttgtccttg gttttttttt ttttctcagt cttttagact cccagctgca caacttgatt 300
gccttacaaa tgacctgctt caaggatgtg gaaattccta atttcttctg ggaaccttct 360
caactccccc atcttgcatg ttgtgacatc ttcaccagga acatcaacct gtatttccct 420
gctgccatat ttggttttct tcccatctcg ggacgctttt tctcttgcta taaaattgtt 480
tccttcattc tgagggtttc atcatcaggt gggaagtata aaccttctcc gcctgtgggt 540
ctcatctgtc agttgtttac tgattttatg gaacaggctt tggagggtac ctcagttcag 600
atgtgtcatc ttccccgaga aagactgcag tggcctcagt gatgtacgca gtggtcaccc 660
cc 662

<210> 807
<211> 647
<212> DNA
<213> Unknown (H38g657 nucleotide)

<220>
<223> Synthetic construct

<400> 807
gtgctggatg tcggatgtat cactgtcact gttcctgcaa tgttgggtcg tctcttgtcc 60
cacaagtcca caatttccta tgacgcctgc ctctcccagc tcttcttctt ccaccttctg 120
gctgggatgg actgcttcct gctgaccgcc atggcctatg accgactcct ggccatctgc 180
cagcccctca cctacagcac ccgcatgagt cagacagtcc agaggatgtt ggtggctgcg 240
tcctgggctt gtgccttcac caacgcactg acccacactg tggccatgtc cacgctcaac 300
ttctgtggcc caaatgaggt caatcacttc tactgtgacc tcccacagct cttccagctc 360
tcctgctcta gcacccaact caatgagctg ctgctctttg tagcagcagc cttcatggct 420
gtggcaccct tggtcttcat cagtgtgccc tatgcccatg tggtagctgc tgtgctgcaa 480
atcgctccgc tgagggcaga aagaaggcct tctccacatg tggctcccac ctcactgtgg 540
tgggcatctt ctatgggaca ggtgtcttca gctacatgag gctgggttca gtggaatctt 600
cagacaagga taagggggtt ggggttttca tgactgtgat caacccc 647

<210> 808
<211> 635
<212> DNA
<213> Unknown (H38g658 nucleotide)

<220>
<223> Synthetic construct

<400> 808
tttgtggaca tagcctgttc ctcagccaca gcacccaaga tgattgaaga ctttgtttct 60
gagaaaaaga ctatttccta ctggggctgt ataactcaga tgtttacctt ccactttttt 120
ggttgtgctg acatttttgt tttgactgtc atggcttttg atcgctgtgc tgctatctgc 180
caacccctcc gttacactgt catcatgagt gctaatgctt atactgtgct ggcatcactg 240
tcctggttgg gggccctggg tcattccttt gttcagaccc tcctgacctt ccagctgccc 300
ttctgtaatg ctcaggttat agaccattac ttttgtgatg tccacccagt cctaaaactt 360
gcctgtgctg atacaactct ggtaaatatg ttggtggttg ccaacagtgg tctcatctcc 420
ctggggtgtt tcctcattct tttggcctcc tacacagtca ttctgtttag tcttcaaaaa 480
cagtctgcag agagctgaca caaagttctc tctacctgtg gatctcatct gactatagta 540
actttcttct ttgttccgtg tatctttatt tatctccatc cactactttc ccattggata 600
aagctgtgtc tgtgttctat accaccatca cccca 635

<210> 809
<211> 648
<212> DNA
<213> Unknown (H38g659 nucleotide)

<220>
<223> Synthetic construct

<400> 809
ttctctgacc tctgcttctc ttccgtgacc attcccaagt tgttacagaa catgcagaac 60
caggacccat ccatccccta tgcggactgc ctgacccaaa tgtacttctt cctgttattt 120
ggagacctgg agagcttcct ccttgtggcc atggcctatg accgctatgt ggccatctgc 180
ttccccctgc actacaccgc catcatgagc cccatgctct gtctcgccct ggtggcgctg 240
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ttttgtgcag acaatgtgat cccccacttt ttctgtgata tgtctgctct gctgaagctg 360
gccttctctg acactcgagt taatgaatgg gtgatattta tcatgggagg gctcattctt 420
gtcatcccat tcctactcat ccttgggtcc tatgcaagag ttgtctcctc catcctcaag 480
gtcccttctt ctaagggtat ctgcaaggcc ttctctactt gtggctccca cctgtctgtg 540
gtgtcactgt tctatggaac cgttattggt ctctacttat gctcatcagc taatagttct 600
actctaaagg acactgtcat ggctatgatg tacactgtgg tgacccccc 648

<210> 810
<211> 438
<212> DNA

<213> Unknown (H38g660 nucleotide)

<220>
<223> Synthetic construct

<400> 810
actttgcaga atatcacctc cacttccatc attttcctgc tcactggtgt tcctgggctg 60
gaagccttcc acacctggat ctccattccc ttctgcttcc tctctgtaac tgctctcttg 120
ggaaacagcc tgatcctctt cgctaccatc actcagccca gcctccacga accaatgtac 180
tatttcctct ccatgctgtc cgccactgac ctcggcctgt ccatatccac tctggtcacc 240
atgctgagta tattctggtt caatgtgagg gaaatcagct ttaatgcctg cttgtcccac 300
atgttcttta ttaaattctt cactgtcatg gaatcctcag tgctgttggc catggctttt 360
gatcgtttgg tgccgtctct atccccttag tatgccatga tttaactgac tcagatagct 420
aaaatgagtg cagtgtat 438

<210> 811
<211> 1002
<212> DNA
<213> Unknown (H38g661 nucleotide)

<220>
<223> Synthetic construct

<400> 811
gcaggtgtgg aaaacgataa tacaagttct ttcgaaggct tcatcctggt gggcttctct 60
gatcgtcccc acctagagct gatcgtcttt gtggttgtcc tcatctttta tctgctgact 120
cttcttggca acatgaccat tgtcttgctt tcagctctgg attcccggct gcacacacca 180
atgtatttct ttttggcaaa cctctcattc ctggacatgt gtttcaccac aggttccatc 240
cctcagatgc tctacaacct ttggggtcca gataagacca tcagctatgt gggttgtgcc 300
atccagctgt actttgtcct ggccctggga ggggtggagt gtgtcctcct ggctgtcatg 360
gcatatgacc gctatgctgc agtctgcaaa cccctgcact acaccatcat catgcaccca 420
cgtctctgtg gacagctggc ttcagtggca tggctgagtg gctttggcaa ttctctcata 480
atggcacccc agacattgat gctaccccgc tgtgggcaca gacgagttga ccactttctc 540
tgtgagatgc cagcactaat tggtatggcc tgtgtagaca ccatgatgct tgaggcactg 600
gcttttgccc tggcaatctt tatcatcctg gcaccactca tcctcattct catttcttat 660
ggttacgttg gaggaacagt gcttaggatc aagtcagctg ctgggcgaaa gaaagccttc 720
aacacttgca gctcgcatct aattgttgtc tctctcttct atggtacaat catatacatg 780
tacctccagc cagcaaatac ttattcccag gaccagggca agtttcttac ccttttctac 840
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gaggccatga agaaggtgct agggaagggg agtgcagaaa tatagtaagg ggtgattaaa 960
ctttgggatt gtattttgac ccatcttcta tatatgttgt ta 1002

<210> 812
<211> 827
<212> DNA
<213> Unknown (H38g662 nucleotide)

<220>
<223> Synthetic construct

<400> 812
ctctacctca tcaagcatga ccacagtctt catgagccca tgtactactt cctcaccatg 60
ctggcaggca cagacctcat ggtgacattg accacgatgc ctactgtaat gggcatccta 120
tgggtgaatc acagggaaga ttagcagtgt gggctgcttc ctacaggctt actttattca 180
ctccctttct gttgtggaat caggttccct cctggcaatg gcatatgatc gtctcattgc 240
catccgcaat cctttgagat atgctctcca tttccaccaa tactagagtc atagcgttag 300
gagtgggatt gttcctaagg ggtttggtat ccatcctgcc tgtaattttg cgtctttttc 360
catttccata tggcaaatct catgttatca cacgttgctt tctgcctcca ccaagaaatc 420
atgagactgg cttgtgctga cataacttcc aataaacttt accctgtaat tttgatctct 480
ttaacaatct ccctaaactc tctgatcacc ccctcctcct atatcctaat ccttaatact 540
gtcataggca ttgcctctgg tgaaaaaaaa ccaaagccct caatacctgt atctcccaca 600

taagttgtgt ccttatctcc tatgttacgg tgatgggttt gacattcatt tacaaatttg 660
ggaagaatgt gccaaaggtt gtccacatta tcataagtta catctacttc ctctttcccc 720
ctttaatgaa ccctgtcatc tacagcatca aaaccaagca aatacaatat ggcattatcc 780
gccttttatc taaacatagg tttagtaggt aaactcggat ctggaaa 827

<210> 813
<211> 657
<212> DNA
<213> Unknown (H38g663 nucleotide)

<220>
<223> Synthetic construct

<400> 813
ttggccgaca tcggtttcac ctccaacacg gtccccaaga tgattgtgga catccaatct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgctgttttt 120
ggaggcatgg aagaaagaca tgctcctgag tgtgagggcc tatgaccggt ttgtagccat 180
ctgtcaccct ctatattgtt cagccatctt taacccgtgt ttctgtggct tcctagattt 240
gttgtctttt tttttttttt ttctcagtct ttcagactcc cagctgcaca acttgattgc 300
cttacaaatg acctgcttca aggatgtgga aattcctaat ttcttctggg aaccttctca 360
actctcccat cttgcatgtt gtgacacctt caccaggaac atcagtattt ccctgctgcc 420
atatttggtt ttcttcccat ctcggggacc cttttctctt acgataaaat tgttttctcc 480
attctgaggg tttcatcatc aggtgggaag cataaggcct tctccaccag gggtctcac 540
ctgtcagttg tttgctgatt ttatggaaca ggcattggag gctacctcag ttcagatgtg 600
tcatcttccc cgagaaaggc tgcagtggcc tcagtgatgt acacggtggc catcccc 657

<210> 814
<211> 655
<212> DNA
<213> Unknown (H38g664 nucleotide)

<220>
<223> Synthetic construct

<400> 814
ttgcctgaca tcggtttccc ctcccccacg gtccccaaga tggttgtgga catccaatct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagacaca tgctcctgaa tgtgatggcc tatgtccggt ttgtagccat 180
ctgtcaccct ctatatcatt cagccatcat gaacccgtgt ttctgtggct tcttactttt 240
gttgtctttt ttttttctcg gtcttttaga cgcccagctg cacaacatga ttgccttaca 300
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acaccttgcg tgttgtgaca ccttcaccaa taacatagtc atgtatttcc ttgctgccat 420
atttggtttt cttcctatct cacggatcat tttctcttac tataaaattg tttcctccat 480
gctgagtgtt tcatcatcag gtgggaagta taaagccttc tccatctgtg ggtctcccct 540
gtcagttgtt tgcttatttt atggaaaagt cgttgggggg tacctgagtt cagatgtgtc 600
atcttccccc agaaagggtg cagtggcctc aatgatgtac acggtgatca ccccc 655

<210> 815
<211> 646
<212> DNA
<213> Unknown (H38g665 nucleotide)

<220>
<223> Synthetic construct

<400> 815
ctagtggact tttgttactc ttcagctgtc actcccacag tcattgctgg gctcgttata 60
ggagacaagg tcatctctta caatgcatgt gctgctcaaa tgttcttttt tgcagccttt 120
gccactgtgg aaaatttcct cttggcctcg atggcctatg accgccatga tgcagtgtgc 180
aaacccctac attacaccac caccatgaca acaagtgtgt gtgcatgtct ggctataatc 240
tgttatgtct gtggtttctt gaatgcctcc atacacattg gggaaacatt gtctctcttt 300

ctgtatgtcc aatgaagtcc attgcttttt ctgtgatgtt ccaccagtca tggctctgtc 360
ttgctgtgat agacatgtga atgggctagt tctcatttat gtagccagtt tcaatatctt 420
ttctgccatc ctagttatct tgatctccta cctattcata tttatcacca tcctaaggac 480
gcactcggct tcaggatacc agaaggcttt gtccacctgt gcctcccacc tcactgcagt 540
catcatcttc tatgggacta ttatctccat gtacttacag cccagctctg gtcactccat 600
ggacacagac aaactggcat ctgtgtccta tactatgatc atcccc 646

<210> 816
<211> 649
<212> DNA
<213> Unknown (H38g666 nucleotide)

<220>
<223> Synthetic construct

<400> 816
ttgcctgaca tcggtttcac ctccaccatg gtccccaaga tgattgtgga atccaatctc 60
acagcagagt catctcctac gcaggctgcc tgactcagat gtctctcttt gccatttttg 120
gaggcatgga agagagacat gctcctgagt gtgatggcct atgaccggtt tgtagccatc 180
tgtcaccctc tatatcattc agccatcatg aacccgtgtt tctgtggctt cctagttttg 240
ctgtcttttt tttctttctt tttctcagct gcacaacttg attgccttaa aaatgacctg 300
cttcaaggat gtggaaattc ctaatttctt ctgtgaccct tctcaactcc cccatcttgc 360
atgttgtgac accttcacca ataagataat catgtatttc cctgctgcca tatttggttt 420
tcttcccatc tcagggaccc ttttctctta ctctaaaatt gtttcctcca ttctgagggt 480
ttcatcatca ggtgggaagt ataaagcctt ctccacctgt gggtctcacc tgtcagttgt 540
ttgctgagtt tatggaacag gcgttggagg ttacctcagt tcagatgatg tgtcatcttc 600
ccccagaaag ggtgcagtgg cctcagtgat gtacacggtg gtcaccccc 649

<210> 817
<211> 651
<212> DNA
<213> Unknown (H38g667 nucleotide)

<220>
<223> Synthetic construct

<400> 817
atcattgata tttcgtatgc ttccaacaaa gtccccaaga tgctgacaaa ccttggcttg 60
aacaagagaa aaacaatctc ctttgtccca tgcacaatgc agaccttttt atacatggct 120
tttgctcaca ctgagtgtct catcttggta atgatgtcct acgatcggta catggctatc 180
tgccaccctc tgcaatattc tgtcatcatg agatggggag tgtgcacagt cctggctgtc 240
acttcttggg catgtggttc ccttctggcc ctggtccatg tggttctcat cctgaggctg 300
cccttctgtg ggccccatga aatcaaccac ttcttctgtg aaatcctgtc tgtcctcaag 360
ttggcctgtg ctgacacctg gctcaaccag gtggtcatct ttgctgcttc agtgttcatc 420
ctggtggggc cgctctgcct ggtgctggtc tcctactcgc gcatcctggc ggccatcttg 480
gggatccagt ctggggaggg ccgcagaaag gccttctcca cctgctcctc ccacctttgc 540
atggtgggac tcttctttgg cagcgccatt gtcatgtaca tggcccccaa gtcccgccac 600
cctgaggagc agcagaaggt cctttccctg ttttacagcc ttttcaaccc g 651

<210> 818
<211> 646
<212> DNA
<213> Unknown (H38g668 nucleotide)

<220>
<223> Synthetic construct

<400> 818
ctagtggact tttgttactc ttcagctgtc actcccacag tcatagctgg gctcgttata 60
ggagacgagg tcatctctta cagtgcatgt gctgctcaaa tgttcttttt tgcagccttt 120
gccactgtgg aaaatttcct cttggcctca atggcctatg accgctatga tgcagtgtgc 180

aaacccctac attacaccac caccatgaca acaagtgtgt gtgcatgtct ggctataatc 240
tgttatgtct gtggtttctt gaatgcctcc atacacattg gggaaacatt gtctctcttt 300
ctgaatgtcc aatgaagtcc attgcatttt ctgtgatgtt ccaccagtca tggctctgtc 360
ttgctgtgat agacatgtga atgagctagt tctcatttat gtagccagtt tcaatatctt 420
ttctgccatc ctagtaatcc tggtctccta cctattcata tttatcacca tcctagagat 480
gcactcagct tcaggatacc agaaggcttt gtccaactgt gcctcccacc tcactgcagt 540
catcatcttc tatgggacta ttatcttcat gtacttacag cccagctctg gtcactccat 600
ggacacagac aaactggcat ctgtgttcta tactatgatc atcccc 646

<210> 819
<211> 933
<212> DNA
<213> Unknown (H38g669 nucleotide)

<220>
<223> Synthetic construct

<400> 819
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ccgggagtcc agatccccct cttcttcctg tttctaggct tctacgtggt cactgtggtg 120
gggaacctgg gcttgataac cctgataagg ctcaactctc acttgcacac ccctatgtac 180
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ctcttcttct ttcttttctt tgttgtctct gagtccttca tcctgtcagc aatggcgtat 360
gaccgctatg tggccatctg taacccactg ttgtacatgg tcaccatgtc tccccaggtg 420
tgtttctcc ttttgttggg tgtctatggg atggggtttg ctggggccat ggcccacaca 480
gcgtgcatga tgggtgtgac cttctgtgcc aataaccttg tcaaccacta catgtgtgac 540
atccttcccc ttcttgagtg tgcttgcacc agcacctatg tgaatgagct tgtagtgttt 600
gttgttgtgg gcattgatat tggtgtgccc acagtcacca tcttcatttc ctatgctctc 660
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tgcagctccc acataattgc agtttctctg ttctttgggt caggagcatt catgtacctc 780
aaaccctttt ctcttttagc tatgaaccag ggcaaggtgt cttccctatt ctataccact 840
gtggtgccca tgctcaaccc attaatttat agcctgagga ataaggacgt caaagttgct 900
ctaaagaaaa tcttgaacaa aaatgcattc tcc 933

<210> 820
<211> 927
<212> DNA
<213> Unknown (H38g670 nucleotide)

<220>
<223> Synthetic construct

<400> 820
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ccagagctcc agctccctct tttccttcta ttcttaggga tctatgtgtt cactgtggtg 120
ggcaacttgg gcttgatcac cttaattggg ataaatccta gccttcacac ccccatgtac 180
tttttcctct tcaacttgtc ctttatagat ctctgttatt cctgtgtgtt tacccccaaa 240
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tttttcttct gtttctttgt caattctgag tgctatgtgt tggtatcaat ggcctatgat 360
cgctatgtgg ccatctgcaa ccccctgctc tacatggtca ccatgtcccc aagggtctgc 420
tttctgctga tgtttggttc ctatgtggta gggtttgctg gggccatggc ccacactgga 480
agcatgctgc gactgacctt ctgtgattcc aacgtcattg accattatct gtgtgacgtt 540
ctcccccctct tgcagctctc ctgcaccagc acccatgtca gtgagctggt atttttcatt 600
gttgttggag taatcaccat gctatccagc ataagcatcg tcatctctta cgctttgata 660
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ggctcccaca taattgctgt tgctctgttt tttgggtcag ggacattcac ctacttaaca 780
acatcttttc ctggctctat gaaccatggc agatttgcct cagtctttta caccaatgtg 840
gttcccatgc ttaacccttc gatctacagt ttgaggaata aggatgataa acttgccctg 900
ggcaaaaccc tgaagagagt gctcttc 927

<210> 821
<211> 887
<212> DNA
<213> Unknown (H38g671 nucleotide)

<220>
<223> Synthetic construct

<400> 821
atgaaatgaa tggcagtgga aaataactct tcggtgactg aatttatcct tgtgagatta 60
acaaactccc gctgccccag tgttttattc ttaatgtggt ccctgtgggg agaatttgaa 120
cataatttta tgtccctaaa ttctcacctt catacccca cacacttttt cctcttcacg 180
ctatccttca ttgatgtctg ctattcattt gtctgtacca caaaaattcc aatgggcttt 240
atctcagaga ggaacatcat ctcctttgtg ggatggccaa cgtagctata tttcttttgc 300
atctttgtca aagaacctaa aaatggggtc attgtgggaa taatgttctc agccaagatg 360
cttgtagccg agagataatg gactagtcgt tgatgtgaaa ctagaaaatg cacatggccc 420
tagaaaggtc tgattttaga atgggataaa caggatctgc tacaaagaaa catttaatca 480
tattcttgta ttacagcgat tatttccaga gatagtgagg ctgcagagct ttgggacaag 540
gttccttagc gaagcaagac acactctcta gaattgcaca tgtactttaa aaagtctgtt 600
acatattata atatgttttt atatttggaa acagaaaaaa ataagttatt tatatcacaa 660
atcatagaaa atggatcttt acaaaatctt catgttttgt gggttactca caagaaaaat 720
tttctccgtc catttctact tctcaaatgg ttcaaggaaa aatgctcctt aaaggatata 780
tctgattctg gagaatgagc ttacctatgt gtgcaatttt tatctttgtc agaagatact 840
actaccttct gaaaaagttg aaaacactgc tttataagaa cagctat 887

<210> 822
<211> 939
<212> DNA
<213> Unknown (H38g672 nucleotide)

<220>
<223> Synthetic construct

<400> 822
atgctggcta gaaacaactc cttagtgact gaatttattc ttgctggatt aacagatcgt 60
ccagagttcc ggcaacccct ctttttcctg tttctagtgg tctacattgt caccatggta 120
ggcaaccttg gcttgatcat tcttttcggt ctaaattctc acctccacac accaatgtac 180
tatttcctct tcaatctctc cttcattgat ctctgttact cctctgtttt cactcccaaa 240
atgctaatga actttgtatc aaaaaagaat attatctcct atgttgggtg catgactcag 300
ctgtttttct ttctcttttt tgtcatctct gaatgctaca tgttgacctc aatggcatat 360
gatcgctatg tggccatctg taatccattg ctgtataagg tcaccatgtc ccatcaggtc 420
tgttctatgc tcacttttgc tgcttacata atgggattgg ctggagccac ggcccacacc 480
gggtgcatgc ttagactcac cttctgcagt gctaatatca tcaaccatta cttgtgtgac 540
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attgttgtgg gtattaatat catggtaccc agttgtacca tcctcatttc ttatgttttc 660
attgtcacta gcattcttca tatcaaatcc actcaaggaa gatcaaaagc cttcagtact 720
tgtagctctc atgtcattgc tctgtctctg tttttgggt cagcggcatt catgtatatt 780
aaatattctt ctggatctat ggagcaggga aaagtttctt ctgttttcta cactaatgtg 840
gtgcccatgc tcaatcctct catctacagt ttgaggaaca aggatgtcaa agttgcactg 900
aggaaagctc tgattaaaat tcagagaaga aatatattc 939

<210> 823
<211> 1071
<212> DNA
<213> Unknown (H38g673 nucleotide)

<220>
<223> Synthetic construct

<400> 823
atgaattggg taaataagag tgtcccacag gagttcattc tgttagtttt ctcagatcaa 60

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ccatggctag agattccacc ctttgtgatg tttctgtttt cctatatctt gacaatcttt     120
ggcaatctga caataattct tgtgtcacat gtggatttca aactccacac ccctatgtac     180
tttttcttta gcaatctctc actcctggac ctttgctata ccacaagtac agttccacaa     240
atgctggtaa acatatgcaa caccaggaaa gtaatcagtt atggtggctg tgtggcccag     300
cttttcattt tcctggcctt gggttccaca gaatgtcttc tcctggccgt catgtgcttt     360
gataggtttg tagctatttg tcggcctctc cattactcaa ttatcatgca ccagaggctc     420
tgcttccagt tggcagctgc atcctggatt agtggcttta gcaattcagt attacagtcc     480
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gtccctgctc tgctcaagtt gtcctgtgtt gacacaacag caaatgaggc tgaactattc     600
ttcatcagtg tgctattcct tctaataccc gtgacactca tccttatatc gtatgctttt     660
attgtccaag cagtgttgag aatccagtct gctgaaggtc aacgaaaggc atttgggaca     720
tgtggctccc atctaattgt ggtgtcactt ttttatggta cagctatctc catgtacctg     780
caaccacctt cacccagctc caaagaccgg ggaaagatgg tttctctctt ctgtggaatc     840
attgcaccca tgctgaatcc ccttatatat acacttagga acaaagaggt aaaggaagcc     900
tttaaaaggt tggttgcaaa gagtcttctt aatcaagaaa taagaaatat gcaaatgata     960
agctttgcta aagacacagt gcttacttac cttactaact tctccgcaag ttgtcctatt    1020
tttgtcatta ctatagaaaa ctattgtaat ctccctcaaa gaaaatttcc t             1071
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<210> 824
<211> 991
<212> DNA
<213> Unknown (H38g674 nucleotide)

<220>
<223> Synthetic construct

<400> 824

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ccagatctcc aactccctct gttcttcctg tttctagtgt atggtcactg cgttgggaaa     120
tttggcttgg taactctcgt tgtgctcaat tcacaccttc ataccccat gtactttttc      180
ctctttaact tgtccttcat agatctctgt tattcttctg tgtttacacc ccaaatgctg     240
atgaacttca taacacagaa ggatattatc tcccacatgg ggtgcatgtc ccagcttttc     300
ttttttcttt atttttttt ggtatttctg aatgctatgt gctcacctca atggcctatg      360
atcagcatgt caccatgatc accatgtagc catctgtaac ccacttttgt ataatattgc     420
catgtccccc aaagtgtact ctcaccttat gcttggttta tacttgctag ccttttctag     480
tgccatggcc cacactggat gcatgctgag actgaccttc tgtgatgcaa acaccatcca     540
tccctatttg tgtgacatcc tccctctgct ccagctctct tgcaccggca cctacatcaa     600
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gtggttgcag ctcctacatc atcctccaca tcaactccaa ggagggcagg tccaaagcct     720
tgaacacctg cagttccaac ctaattgctg tttctcttag tttggatcgt gtgcatttat     780
gtgtctcaaa ccatcttctg ctgggtccat ggatgaggga aagatttctt ctgtctttta     840
caccaataca gctcccttga tgaacccctt aatctacagt ttgatgaata aaatgttcaa     900
ctttctctga gaaaaaaacc ctagtaggaa aaaattttga ctagaaatag tatctttctg     960
tgcatgtatt tttaggacag ggagcttctg t                                    991
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<210> 825
<211> 997
<212> DNA
<213> Unknown (H38g675 nucleotide)

<220>
<223> Synthetic construct

<400> 825

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atggctcctg gaaatggctc tttgatgaat gaattcattc tggtggggtt aacagactag      60
ccagatcttt aactccctct gttcttcatg tttcttgtaa tgtatgttgt cactgtgata     120
agaaactttg tcttggtaat tctaactatg cgaaattcac gtcttcacac tcccaagtac     180
tttttccttt ctaaattgtt cttcacagac ctctgttatt cttctgtgtt tatactccaa     240
cttccgagga agtgtatttc agaggagaat gttatctcct acatggtttg catgatctag     300
cttttctttt tctttttctg ttttttttt tttttaattt atttctgaat gttatatgct      360
gacgtcaatg gcctatgatt gctgtgtggc catctgttac ccacttcttt atcacattgc     420
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catgtcccct aaagtgtgtt tcagccttat gcttggttcc tacttcctat ccttttctgg 480
ggccatggcc cacactggat gcatgctgag gctgacctgt gatgcaaaca ccatcaatca 540
ttacttccgt gacatcctcc ctgtgttcca gctctcctgc accagcacct acatcaatga 600
actggtggtt ttcattgtgg caggcatcaa taccattgtg cccactgtca ccgtctttat 660
ctcttatggt gacatcctct ccaggatcct ccacatcagt tccaatgagg gaaggtccaa 720
agccttcagc acttgcagtt cccacataat tgctgtttct ctgttctttg gattaagtgc 780
atttatgtat ctcaaaccat cttctgctgg gtctatggat gagggaaaat tctcttctgt 840
tttttatatg aacgggcttc ccatgatgag ctccttaatc tacagcttaa ggaggaaaga 900
tgttaaattt gccatgggaa aatctctgag taggagaatg tttttgccat aaacaacatt 960
tctctgtgta tgtagttaca ggatggggat tctctgt 997

<210> 826
<211> 939
<212> DNA
<213> Unknown (H38g676 nucleotide)

<220>
<223> Synthetic construct

<400> 826
atggacagtc taaaccaaac aagagtgact gaatttgtct tcttgggact cactgataac 60
cgggtgctgg aaatgctgtt tttcatggca ttctcagcca tttatatgct aacgctttca 120
gggaacattc tcatcatcat tgccacagtc tttactccaa gtctccatac ccccatgtat 180
ttcttcctga gcaatctgtc ctttattgac atctgccact catctgtcac tgtgcctaag 240
atgttggagg gtttgctttt agaaagaaag accatttcct ttgacaactg catcacacag 300
ctcttcttcc tacatctctt tgcctgtgcc gagatctttc tgctgatcat tgtggcgtat 360
gatcgttacg tggctatctg cactccactc cactacccca atgtgatgaa catgagagtc 420
tgtatacagc ttgtctttgc tctctggttg gggggtactg ttcactcact agggcagacc 480
ttcttgacta ttcgtctacc ttactgtggc cccaacatta ttgacagcta cttctgtgat 540
gtgcctcttg ttatcaagct ggcctgcaca gatacatacc tcacaggaat actgattgtg 600
accaatagtg gaaccatctc cctctcctgt ttcttggccg tggtcacctc ctatatggtc 660
atcctggttt ctcttcgaaa acactcagct gaagggcgcc agaaagccct gtctacctgc 720
tcggcccact tcatggtggt tgccctcttc tttggccat gtatcttcat ctatactcgg 780
ccagacacca gcttctccat tgacaaggtg gtgtctgtct tctacacagt ggtcacccct 840
ttgctgaatc ccttcattta caccttgagg aatgaggagg taaaaagtgc catgaagcag 900
ctcaggcaga gacaagtttt tttcacgaaa tcatataca 939

<210> 827
<211> 992
<212> DNA
<213> Unknown (H38g677 nucleotide)

<220>
<223> Synthetic construct

<400> 827
atggctcctg gaaatatttc tactgtggct gaattaattc tggtggggtt aaaagaccag 60
acagatctcc aaccgcccct gttcttcctg tttctagtaa tgggtgtggt tgctgggtag 120
gggaatttgg gcttggtaac tctgattgtg ttcagttcac actttcatgc acccatgtac 180
ttttttcttt ttagtttagc ttttatagac cacttttatt cttctgtgtt tattccaaaa 240
atgctgatga acttcataac agagaagaat attatttcct atgcgggttg catgtcagct 300
ttttttttctt tcttttttttt tttttttttg ttatttctga atgctatgtt ttgacgtcaa 360
tggtctctga tcactagtgg ccatggccat ctgtaacccg cttctgtata acattgccat 420
gtcccctaaa gtgtgttcca gccatatgct tggttcctac ttctggccct tttctggggc 480
catggcccat accaggtgca tgctgaaact gacctcctgt gaggcaaaca ccatcaacca 540
ctacttctgt gacacccttc atctgctcca gctctcttgc accagcacct acgtcagtga 600
gttgatggtt ttcattgcag caggcatcat tttcactgtg cccagtatca ccatctttat 660
ctcttatttt tttacctctc cattatccta tcagcttcac tgagggctgg tcaaaatttt 720
tcagcacctg cagtttccac aaaattgcca tttctctgtt ctttggatta ggtgcatcat 780
tgtgtcttaa attatcctca actgggacta taaatgaagg taaaatatct tctgtctttc 840
acattgatgt agttcccatg ataaactcct caatttacag cttaagaaac aatgatgtta 900

aacttgcctg gagaaaaatc ctaagttgga gaaaatttcc atttgaaact atctctctcc 960
atgcatatag ttacaggaca aggagattct gt 992

<210> 828
<211> 966
<212> DNA
<213> Unknown (H38g678 nucleotide)

<220>
<223> Synthetic construct

<400> 828
atgagtgtcg tagaagccaa taacatttct gggcctgtga gtgaatttat cctcctgggc 60
ttcccctgcc tgctgcaggg agaccaagat cctcctcttt gtggtcttct ccctcatcta 120
ccttctgacc ctcatgggta acacatccat catctgcgct gtgtggtcaa gccagaaact 180
ccacacacct atgtacatcc tcttggctaa tttctctttc ctggagatct gctgcattag 240
ttctgatgtc ccaaaatgtt ggccaatctc atctcccata tcaagagcat ctcctatgct 300
ggctgcctgc tccagttctt ctacttctcc atgtgtgctg cagaaggcta ctttctgtct 360
gtgatgtcct ttgatcggtt ccttaccatc tgtcgacctt tgcattatcc cacagtcatg 420
actcaccacc tgtgtgtctg attagtggcc ttctgcaggg caggtggttt tctatccata 480
ctgatgcctg cagtgcttat gtcccgagtg cctttctgtg gccctaacat cactgaccat 540
tttttctgta acctgggacc attgctggca ctgtcctgtg ccccagttcc caaaactact 600
ctgacttgtg ctacagtaag ctctctcatc atcttcatca ccttcctcta cattcttggg 660
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gctttctcta catgtgcttc ccatttcttg gttgtttctt tcttctatgg ctcagtcatg 780
gtgatgtatg tgagtccagg ctccaggagc cgccctggga cacagaaatt tgtgacattg 840
ttttactgca cagcaacccc attctttaat cccctgacct acagtctctg gaacaaagat 900
atgacagatg cccttaaaaa agtgctggga gtgccatcaa aagaaatata ttggaacaca 960
ctgaaa 966

<210> 829
<211> 1003
<212> DNA
<213> Unknown (H38g679 nucleotide)

<220>
<223> Synthetic construct

<400> 829
atggaagagg ccatcctact caatcaaact tctttagtga catattttcg gcttagaggt 60
ttatctgtaa atcataaggc acggatagct atgttttcca tgttcctcat tttttatgtc 120
ctgacactga ttgggaatgt tctcattgtc ataactatta tctatgacca ccggctccat 180
actcccatgt atttcttcct cagcaacctg tcctttattg atgtctgcca ctccactgtc 240
actgtcccca agatgctgag agacgtgtgg tcagaggaaa agctcatctc ttttgatgcc 300
tgtgtgaccc agatgttctt cctgcacctc tttgcctgca cagagatctt cctcctcacc 360
gtcatggcct atgatcggta tgtggccatc tgtaaacccc tgcagtacat gatagtgatg 420
aactggaagg tatgtgtgct gctggctgtg gccctctgga caggagggac catccactcc 480
atagccctca cctcccttac catcaagctg ccctactgtg gtcctgatga gattgacaac 540
ttcttctgtg atgtacctca ggtgatcaag ctggcctgca ttgacacacc cacgtccttg 600
agatcctcat tgtctccaac agtggattga tctccgtggt ctgttttgtg gtcctggtgg 660
tgtcctacgc agtcatcctg gtgagtctga ggcagcagat ctccaagggc aagtggaagg 720
ccctgtccac ctgtgcagcc catctcactg tagttacact gttcctggga cactgcatct 780
tcatctattc ccgcccatcc accagcctcc cagaggacaa ggcagtatct gtgtttttca 840
ctgcagtcac ccccctgctg aaccccatta tctataccct taggaatgaa gaaatgaaga 900
gtgccttaaa caagttagtg ggagaaaaag agagaaaaga agaaaaatga aaatgtctac 960
gtccttagga tacgtggtgc tccaaattaa agaagcgcct tgc 1003

<210> 830
<211> 478
<212> DNA
<213> Unknown (H38g680 nucleotide)

<220>
<223> Synthetic construct

<400> 830
acggggactg gatgatggct gtgtcatgcc atgatcctaa ctcccctcac ttccagttac 60
cttactgtgg cctaacaagg tgggctatac ttctgtgata tcctgcagtg tacctctagc 120
ctgtaaggac acatccttag cccagagggt aggttttaca aatgttggtc ttttgtctct 180
catttgcttt tttctcatcc ttgtttccta tacttgcatt gggatttcca tatcaaaaat 240
ccgctcagca gagggcaggc agcgggcctt ctccacctgc agcgctcacc tcactgcaat 300
cctttgtgct tatgggccag tcatcgttat ctatctacaa cccaatccca gtgccttgct 360
tggttccata attcagatat tgaataatct ggtaacccca atgttgaatc cactaatcta 420
tagccttagg aataaggatg taaaatcaga tcagccctga ggaatgtatt tcccaaga 478

<210> 831
<211> 400
<212> DNA
<213> Unknown (H38g681 nucleotide)

<220>
<223> Synthetic construct

<400> 831
ttactatttt taatgttctt tattacttcc ttgggtcata aattccatct gatatcattt 60
cccttcagtc aacaaaccac ctaacaaaaa tactttataa tttttgaagt atgactctgc 120
tgataacata cactcacagc attaatttat tgttaaatgt ccttgttcta gggtatagac 180
ctatttgtag ggtataccct ttagtcccag agtattgttc ttatttctag ggcgtggtcc 240
ttctgggttt tcattagaaa gcctaagttt ttaccgaacc tctttcactt ggcagcactt 300
gcatttaaaa ttctattgcc ctagttgagg gtaactgcta aaatcttttc tctcagccat 360
ctggctgctg ttttctactt actttcttag agtcttgtct 400

<210> 832
<211> 933
<212> DNA
<213> Unknown (H38g682 nucleotide)

<220>
<223> Synthetic construct

<400> 832
atggctactt caaaccattc ttcaggggct gagtttatcc tggcaggctt gacacaacgc 60
ccagaacttc aactgccact cttcctcctg ttccttggaa tatatgtggt cacagtggtg 120
gggaacctgg gcatgatctt cttaattgct ctcagttctc aactttaccc tccagtgtat 180
tattttctca gtcatttgtc tttcattgat ctctgctact cctctgtcat tacccctaag 240
atgctggtga actttgttcc agaggagaac attatctcct ttctggaatg cattactcaa 300
ctttatttct tccttatttt tgtaattgca gaaggctacc ttctgacagc catggaatat 360
gaccgttatg ttgctatctg tcgcccactg ctttacaata ttgtcatgtc ccacagggtc 420
tgttccataa tgatggctgt ggtatactca ctgggttttc tgtgggccac agtccatact 480
acccgcatgt cagtgttgtc attctgtagg tctcatacgg tcagtcatta tttttgtgat 540
attctcccct tattgactct gtcttgctcc agcacccaca tcaatgagat tctgctgttc 600
attattggag gagttaatac cttagcaact acactggcgg tccttatctc ttatgctttc 660
attttctcta gtatccttgg tattcattcc actgaggggc aatccaaagc ctttggcact 720
tgtagctccc atctcttggc tgtgggcatc ttttttgggt ctataacatt catgtatttc 780
aagcccccctt ccagcactac tatggaaaaa gagaaggtgt cttctgtgtt ctacatcaca 840
ataatcccca tgctgaatcc tctaatctat agcctgagga acaaggatgt gaaaaatgca 900
ctgaagaaga tgactagggg aaggcagtca tcc 933

<210> 833
<211> 948
<212> DNA
<213> Unknown (H38g683 nucleotide)

<220>
<223> Synthetic construct

<400> 833
atggtgatcc tgtcctggga aaaccaaacg atgagagtgg aattcgtgct tcaaggattc 60
tcttccatca gacagttaaa tattttcctc tttatgataa ttttagtttt ctacatctta 120
actgtttctg gaaacatcct cattgtcctt ctagttttag tcagacatca tctccacacc 180
cctatgtact tcctcctggt gaacttgtcc tgtctggaga tctggtatac ctctaacatc 240
atccccaaaa tgttgctgat tatcatagct gaatagaaga ctatctctgt ggctggctgg 300
ctggcacaat tctacttctt cggatccctg gctgccacgg agtgcctctt gctcactgtg 360
atgtcctatg atcgctacct agccatctgc cagcctcttt gctaccgtgt cctcatgact 420
ggcccccttt gcatcaggct agctgctggc tcttggttct gctgcttcct ccttacagca 480
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ttttgtgact tcacccctct ggttcatctc tcctgcatgg atacctcagt gactgagacc 600
attgcctttg ccacctcttc tgcagtaact ctgatcccat ttctcctcat tgtagcctcc 660
tactcctgcg tcctttctgc tatcctaaga atcccatctt gcacaggcca gaaaaaggcc 720
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acataccttg tgccctcagc caactcatcc caactcttgt gcaaagggtc ctctctgctc 840
tacatcatcc tgacacccat gtttaacccc atcatttata gcctgagaaa tagagacatc 900
catgaagctc tgaagaagtg cttgaggaag aagtcaggtg tttgcctt 948

<210> 834
<211> 946
<212> DNA
<213> Unknown (H38g684 nucleotide)

<220>
<223> Synthetic construct

<400> 834
ccagtgagga ccttggagac tactaatatc actggatttg tgaatgagtt catcctcttg 60
ggcttcccct gccgctggga gatccagatc ctcctttttg tggtcttctc tctcatctac 120
cttctgaccc tcctaggtaa cacatccatc atctgtgctg tgtggtcaag ccagaaactc 180
cacacaccta tgtacatcct actggccaat ttctccttcc tggagatctg ctgtgtcagt 240
tctgacgtgc ccataatggc agccaatctc atctcccaga cacagagcat ctcctgtgct 300
ggctgcctgc tccggttcta cttcttctcc atgtgtgctg cagagtgctt atttctgtca 360
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acccatcacg tttgtgctca tttttgtgat cttctgctgg gtgggtggct gtctctggtt 480
attgacccct ttgacactaa tatctcaggt gctcttttgt ggtccaaaca ctatcgacca 540
ttttttctgt gatctggcac ctttgctggc actgtcttgt gctccaatac ctggaattac 600
tctgacttgt ggtatcatta gcgctctcat catctttctt accttcttgt atatccttgg 660
gacttatttc tgtgttctaa gcacagtgct acaggtgcct tcaggcttag gaaggcataa 720
ggctttctca acttgtggct gtcaccttgc tgtagtgtct ctcttctatg gttctcttat 780
ggtgatgtat gttagcccag gttctgggga ctatcatggg ataaagaaat ttgcgacctt 840
gttctatact ttgtcaactc cattctttaa tcctctgatc tacagtttcc ggaacaagga 900
tatgaaagag gcactaaaga aatttctgag gaatcgccac actgtc 946

<210> 835
<211> 946
<212> DNA
<213> Unknown (H38g685 nucleotide)

<220>
<223> Synthetic construct

<400> 835
cttatagcta caggaaactg gacaagaata agtaagttta tcctcatgag cttctcttcc 60
ctgcctactg aaatacagtc attactcttt ctgacatttc taaccatcta cctggtcacc 120
ctgatgggaa actgcctcat cattctggtt accctagctg accccatgct acacagcccc 180
atgtacttct tcctcagaaa cttatctttc ctggagattg gcttcaacct agtcattgcg 240

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cccaacatgc tgtggaccct gcttgcccag gacacaacca tctccttcct tggctgtgcc    300
acttagatgt atttcgtctt cttctttggt gtggctgaat gcctcctcct ggctaccatg    360
gcatatgacc gctatgtggc catctgcagt ccttgcacta cccagtcatc atgaaccaaa    420
ggactcttgc caaactggct gctacctcct ggttcccagg ctttcctgta gctactgtgc    480
agaccacatg gctcttcagt tttccattct gtggcaccaa caaggtgaac cacttcttct    540
gtgacagccc acctgtgctg aggctggtct gtgcagacac agcactcttt gagatctacg    600
ccatcgtcgg aaccattctg gtggtcatga tcccctgctt gctgatcttg tgttcctata    660
ctcacattgc tgctgccatc ctcaagatcc catcagctaa agggaagaat aaagcctttt    720
ctacatgttc ctcacacctc cttgttgtct ctcttttcta tatatcatta agcctcacct    780
acttccggcc taaatcaaat aattcacctg agggcaagaa gctgctatca ttgtcctaca    840
ctgttatgac tcccatgttg aaccccatta tctacagcct gagaaataac gaggtgaaga    900
atgccctcag caggacggtc tctaaggccc tagccctcag aaactg                   946
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<210> 836
<211> 973
<212> DNA
<213> Unknown (H38g686 nucleotide)

<220>
<223> Synthetic construct

<400> 836

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atggctgtgg aaaatgactc ttcagtgaca agagtttatt cttttgggat taacagacca     60
gcctgagatc taattgcccc tgtttttcct gttcttggtg aactatatga ccaccatggt    120
gggcaacttg agtttaatta atctaatttg cctgaattca caccttcaca ctcccatgta    180
tttttttcctt ttcaatctgt ccttcattga tctctgttat tcatttgtct ttaccccccaa  240
aatgctgatg agctttatct cagagaggaa catcatctcc tttccaggat gcgtaactca    300
gctctttttc ttctgctttt ttgtccactc tgagtgctat gtgctgacag ccatggccta    360
tgatcgctat gtggccatct gcaaacccct tctgtacatg gtcaccacgt cccctcagat    420
ctgttctcta ctgatgcttg gttcatatgt gatggggttt gctggggcca tggtccacac    480
agagtgtatg atgaagctca tcttttgtga ctccaacgtc atcaaccatt acatgtgtga    540
catcttccca ctgctccagc tctcctgcag cagcacctag gccaatgagc tggtgatgtc    600
tgttattgta ggcacagttg ttatagtatc aagcctcatt atcttaatct cttatgcttt    660
gattcttttc aatatccttc acatgtcctc agccgagggt tggttcaaag ccatcggtac    720
ctgtggctcc cacataataa ctgttggcct attctatgaa tttgggctga tcactcatgt    780
taagttatca tctgattggt atatgggtca ggggaagttt ctctcagtgt tttacacgaa    840
tgaggtaccc atgctgaacc ccctcattta tagcctcagg aacaaggatg tcaaacttgc    900
tctaaaggaa accctaaata aaattacaaa ctgagtagag ccaatggtgc tgccttagcc    960
cctctccaat tgc                                                       973
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<210> 837
<211> 992
<212> DNA
<213> Unknown (H38g687 nucleotide)

<220>
<223> Synthetic construct

<400> 837

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ccacacaccg agcagctgct atttatcgta ttattgggtg tctacctggt cactgtgctt    120
ggaaatctgc ttctaatctc ccttgttcat gttgactccc aacttcacac acccatgtat    180
tttttctct gcaacttgtc tctggctgac ctctatttct ctaccaacat acttcctcag     240
gcactagtcc acctgctttc cataaacaac ctcattgcat tcacactttc tctaactcaa    300
cttctctttt tcctcatttt tgggtgaccc agtgcgccct tattgcagtg atgtcctata    360
atccctatgt tgcaatctgc aatcctctgc attaccctaa catcatgacc tggaaagtgt    420
gtgtccagct ggcaacagga tcatggacca gtggcattct ggtgtctgtg gtagacacca    480
ccttcacact gaggctaccc taccgaggca gtaacagcat tgctcatttc ttttgtgagg    540
cccctgcact attgatctta gcatccacag acacccatgc atcagagatg gccatttatc    600
ttacgggggt tgtgattctc ctcatacctg tttttctgat tctggtatcc tatggccgta    660
tcatagtaac tgtggtcaag atgaagtcaa ctgtggggag tctcaaggca ttttctacct    720
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gtggctccca cctcatggtg gtcatacttt taaatggatc agcaatactc acttgcatga 780
cacccaagtc ttccaaacag cagtaaaaat cggtgtctgt tttctatgca atagtaactc 840
ccatgcttaa tcccctcatc tatagcctga gaaacaagga tgtgaaggca gctctgagga 900
aagtagccac aaggaatttc ccatgaaggc ttggaatctc acactgacag tgagctcaga 960
gaacctttg gcttcctact tcaaagactt gc 992

<210> 838
<211> 549
<212> DNA
<213> Unknown (H38g688 nucleotide)

<220>
<223> Synthetic construct

<400> 838
atggaaaaaa gcaataatag cactttgttt attctcttgg ggttttccca aaataagaac 60
attgaagtcc tctgctttgt attattttg ttttgctaca ttgctatttg gatgggaaac 120
ttactcataa tgatttctat cacgtgcacc cagctcattc accaacccat gtatttcttc 180
ctcaattacc tctcactctc cgacctttgc tacacatcca cagtgacccc caaattaatg 240
gttgacttac tggcagaaag aaagaccatt tcctataata actgtatgat acaactcttt 300
accacccatt tttttggagg catagagatc ttcattctca cagggatggc ctatgaccgc 360
tatgtggcca tttgcaagcc cctgcactac accattatta tgagcaggca aaagtgtaac 420
acaatcatca tagtttgttg tactgggga tttatacatt ctgccagtca gtttcttctc 480
accatctctg taccattttg tggcccaaat gatatagatc actactctcg cgatgtgtat 540
cctttgctg 549

<210> 839
<211> 670
<212> DNA
<213> Unknown (H38g689 nucleotide)

<220>
<223> Synthetic construct

<400> 839
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgagcgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagagaca tgctcctgag gtgatggcct atgacctgtt tgtagccatc 180
tgtcaccttc tatatcgttc agccatcttg aacccgtttg tccgtggctt cctagatttg 240
ttgtctttgt tgttggtttt tttttttc tctcagtctt ttagactccc agctgcacaa 300
cttgattgcc ttacaaatga cctgcttcaa ggatgtggaa attccgaatt tcttctggga 360
accttctcaa ctccccatc ttgcatgttg tgacaccttc accaggaaca acaacatgta 420
tttccctgct gccgtatttg gttttcttcc catctcgggg acccttttct cttactgtaa 480
aattgtttcc tccattctga gggtttcatc atcaggtggg aagtacaaac cttctccacc 540
tgtgggtctc acctgtcagt tgtttgctga ttttatggag caggcgttgg agggtacctt 600
ggttcagatg tgtcatcttt cccgagaaag ggtgcagtgg cctcagtgac gtacgtacac 660
ggtggtcacc 670

<210> 840
<211> 645
<212> DNA
<213> Unknown (H38g690 nucleotide)

<220>
<223> Synthetic construct

<400> 840
atggacgtca ggctcatctg caccaccgta cccaagatgg ccttcaacta cttgtctggc 60
agcaagtcca tttctatggc tggctgtgcc acacaaattt tcttctgtgt atcactgctt 120
ggctctgaat gctttctgtt ggctgttatg tcttatgact gctacattgc catttgccac 180
cctctaagat acaccaatct catgagaccc aaaatttgta gacttatgac tgccttctcc 240

tggatcctgg gctctacaga tggaatcatt tatgctgtag ccacattttc cttctcctac 300
tgtgggtctc gggaaatagc ccacttcttc tgtgagttac cttccctact aatcctctca 360
tgcaatgaca cgtcaatatt tgaaaaggtt attttcattt gctctatagt aatgcttgtt 420
ttccctgttg caatcatcat tgcttcctat gctggagtta ttctggctgt cattcacatg 480
ggatctggag agggtcgtcg caaagctttc acgacctgtt cctctcacct catggtggtg 540
ggaatgttct atggagcagg tttgttcatg tacatacagc ccacatctga tcgctcccca 600
acgcaggaca agctggtgtc tgtattctac accatcctca ctccc 645

<210> 841
<211> 380
<212> DNA
<213> Unknown (H38g691 nucleotide)

<220>
<223> Synthetic construct

<400> 841
aatctcctcc ccgtgtggac ccctggaagc aggtgtccct tcatgatcac aaatttctgt 60
ctccgagaag caaggcatgt cctttcccaa gaaacttttc cagaatcaca aacttttcct 120
actctttgca gggatgaatg tatttctgca gactgtgatg gcctatgacc actttgtggc 180
catctgtcac cccctgcact acagggtcat catgaatcct gggatctttg gactgtgggt 240
tctggtgtcc tggagcatga gtgccctgaa ttcctcactg caaagcagaa tgtgttgcag 300
ctgtccttct gcacaaactt ggaaatcccc ccattttttt ctgtgaactt aatcagttga 360
tcctgcttgc ctgttctaac 380

<210> 842
<211> 648
<212> DNA
<213> Unknown (H38g692 nucleotide)

<220>
<223> Synthetic construct

<400> 842
tttgttgatt tctgttattc caccacgatt acacccaaac tgctggagaa cttggttgtg 60
gaagatagaa ctatctcctt cacaggatgc atcatgcagt tattctttgt ctgcatattt 120
gtagtaacag aaacattcat gctggcagtg atggcctatg accgatatgt ggcggtgtgt 180
aaccctcttc tctacacagt tgcaatgtac cagaggcttt gctccttgtt agtggctacg 240
tcatactgtt gggggatagt ctgttccctg acacttacct agtttctact ggaattatcc 300
ttcagaggaa ataatatcat taataacttt gtctgtgagc acgctgccgt cgttgctgtg 360
tcttggtctg accccctgtgt gagccaggag atcactttag tttctgccac attcaatgaa 420
ataagcggcc tggtgatcat tctcactccc tatgctttca tttttatcac tgtcatgaag 480
acgccttcca ctgggggggcg caagaaagcg ttctccacgt ctgcctccca cttgacggcc 540
attaccattt tccatgggac tatccttttc ctctactgtg ttcctaactc caaaagttcg 600
tggctcatgg tcaaggtggc ctctgtcctt tacacagtgg tcattccc 648

<210> 843
<211> 643
<212> DNA
<213> Unknown (H38g693 nucleotide)

<220>
<223> Synthetic construct

<400> 843
ttgccagaca ttggtttcac cttggccacg gtccccaaga tgattgtaga catgcaatca 60
catagcagaa tcatctccca tgcaggctgt ctgacacaga tacctttctt tgtccttttt 120
gtatgtatag atgacatgct cctgactgtg atggcctatg actgatttgt ggccatctgt 180
caccccctgc actacccagt catcatgaat cctcacctct gtgtcttctt agtgttgatg 240
tctttttcct tagcctgttg gattcctagc tgcacaactg gattgttaca attcacctgc 300
ttcaagaatg tggaaatctc taatttttc tgtgactgat ctcaacttct caaccttgcc 360

tgttctgact gtcatcagta acatattcat acgtttagat agtactatat ttggctttct 420
tcccatttca gggatccttt tgtcttacta taaaattgtg ccctccattc taagaattcc 480
attgtcagat gggaagtata aagccttctc cacctgcggc tctcacctgg caattgtttg 540
cttattttat ggaacaggca ttggcatgta cctgacttca gctgtgtcac cagcccccag 600
gaatggtgtg gtggcatcag tgttgtacgc tatggtcacc ccc 643

<210> 844
<211> 652
<212> DNA
<213> Unknown (H38g694 nucleotide)

<220>
<223> Synthetic construct

<400> 844
ttgcctgaca tcggtttcac ccccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcatctatgc aggctgcctg actgtgatgt ctctctttgc catttttgga 120
ggcatggaag agacacatgc tcctgaatgt gatggcctat gtccggtttg tagccatctg 180
tcaccctcta tatcattcag ccatcatgaa cccgtgtttc tgtggcttct tacttttgtt 240
gtcttttttt tttctcggtc ttttagacgc ccagctgcac aacatgattg ccttacaaat 300
gacctgcttc aaggatgtgg aaattcctaa tttcttctgt gacccttctc aactccccca 360
tcttgcatgt tgtgacacct tcaccaataa cataatcatg tattttcctg ctgccatatt 420
tggttttctt cccatctcgg ggaccctttt ctcttactat gaaattgttt cctccattct 480
gagggtttca tcataaggtg ggaagtataa ggccttcgcc acctgtgggt ctcacctgtc 540
agtcgtttgc tgattttatg gaacaggcgt tggagggtac ctcagttcag atgtgtcatc 600
ttccccgaga aagactgcag tggcctcagt gatgtacgca gtggtcaccc cc 652

<210> 845
<211> 692
<212> DNA
<213> Unknown (H38g695 nucleotide)

<220>
<223> Synthetic construct

<400> 845
ttgcctgaca tcggtttcac ctccaccaca gtcgccaaga tgattgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagagaca tgctcctgag tgtgatggcc tatgaccggt ttgtagccat 180
ctgtcaccct ctatatcgtt cagccatctt gagcccgtga ttctgtgcct tcctagattt 240
gttgtctttg ttttgttttg ttttgttttg ttttgttttg ttttgttttt ctcagtcttt 300
tagactccca gctgcacaac ttgattgcct tacaaatgac ctgcttcaaa gatgtggaaa 360
ttcctaattt cctctgggaa ccttctcaac tcccccatct tgcatgttgt gacaccttca 420
ccaggaacat caacatgtat ttccctgctg ctgtatttgg ttttcttccc atctcgggga 480
ccttttctct tacaatggag taaaattgtt tcctccactc tgagggtttc atcatcaggt 540
gggaagtata aaccttctcc acctgtgggt ctcacctgtc agttgtttgc tgattttgtg 600
gaacaggcgt tggagggtac ctcggttcag atgtgtcatc ttccccgaga aagagtgcag 660
tggcctcagt gatgtacacg gtggtcaccc cc 692

<210> 846
<211> 939
<212> DNA
<213> Unknown (H38g696 nucleotide)

<220>
<223> Synthetic construct

<400> 846
atgctggcta gaaacaactc cttagtgact gaatttattc ttgctggatt aacagatcgt 60
ccagagttcc ggcaacccct ctttttcctg ttcctagtga tctacattgt caccatggta 120
ggcaaccttg gcttgatcac tcttttcggt ctaaattctc acctccacac accaatgtac 180

tatttcctct tcaatctctc cttcattgat ctctgttact cctctgtttt cactcccaaa 240
atgctaatga actttgtgtc aaaaaagaat attatctcca atgttgggtg catgactcgg 300
ctgtttttct ttctcttttt cgtcatctct gaatgttaca tgttgacctc aatggcatat 360
gatcgctatg tggccatctg taatccattg ctgtataagg tcaccatgtc ccatcaggtc 420
tgttctatgc tcacttttgc tgcttacata atgggattgg ctggagccac ggcccacacc 480
gggtgcatgc ttagactcac cttctgcagt gctaatatca tcaaccatta cttgtgtgac 540
atactccccc tcctccagct ttcctgcacc agcacctatg tcaacgaggt ggttgttctc 600
attgttgtgg gtactaatat cacggtaccc agttgtacca tcctcatttc ttatgttttc 660
attgtcacta gcattcttca tatcaaatcc actcaaggaa gatcaaaagc cttcagtact 720
tgtagctctc atgtcattgc tctgtctctg tttttgggt cagcggcatt catgtatatt 780
aaatattctt ctggatctat ggagcaggga aaagtttctt ctgttttcta cactaatgtg 840
gtgcccatgc tcaatcccct catctacagt ttgaggaaca aggatgtcaa agttgcactg 900
aggaaagctc tgattaaaat tcagaggaga aatatattc 939

<210> 847
<211> 924
<212> DNA
<213> Unknown (H38g697 nucleotide)

<220>
<223> Synthetic construct

<400> 847
atgaccatgg aaaattattc tatggcagct cagtttgtct tagatggttt aacacagcaa 60
gcagagctcc agctgcccct cttcctcctg ttcctgggaa tctatgtggt cacagtagtg 120
ggcaacctgg gcatgattct cctgattgca gtcagccctc tacttcacac ccccatgtac 180
tatttcctca gcagcttgtc cttcgtcgat ttctgctatt cctctgtcat tactcccaaa 240
atgctggtga acttcctagg aaagaagaat acaatccttt actctgagtg catggtccag 300
ctctttttct ttgtggtctt tgtggtggct gagggttacc tcctgactgc catggcatat 360
gatcgctatg ttgccatctg tagcccactg ctttataatg cgatcatgtc ctcatgggtc 420
tgctcactgc tagtgctggc tgccttcttc ttgggctttc tctctgcctt gactcataca 480
agtgccatga tgaaactgtc cttttgcaaa tcccacatta tcaaccatta cttctgtgat 540
gttcttcccc tcctcaatct ctcctgctcc aacacacacc tcaatgagct tctacttttt 600
atcattgcgg ggtttaacac cttggtgccc accctagctg ttgctgtctc ctatgccttc 660
atcctctaca gcatccttca catccgctcc tcagagggcc ggtccaaagc ttttggaaca 720
tgcagctctc atctcatggc tgtggtgatc ttctttgggt ccattacctt catgtatttc 780
aagcccccctt caagtaactc cctggaccag gagaaggtgt cctctgtatt ctacaccacg 840
gtgatcccca tgctgaaccc tttaatatac agtctgagga ataaggatgt gaagaaagca 900
ttaaggaagg tcttagtagg aaaa 924

<210> 848
<211> 984
<212> DNA
<213> Unknown (H38g698 nucleotide)

<220>
<223> Synthetic construct

<400> 848
atggcacctg gaaatggctc tttcgtgact gaattcattc tggcgggatt aacacatcag 60
ccagatctcc agtcccctct gttcttcctg tttctagtaa tctatgtggt cactctgttg 120
ggaaacttgg gcttggtaac tctaattggg ctgaactcac accttcatac ccccatgtac 180
ttcttcctct ttaacttgtc cttcatagat ctctgttatt cttctgtgtt tacacccaaa 240
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cttttctttt tctgtttttt ttggtcattt ctgaatgtta tgtgctgacg tcaatggcgt 360
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tgctccagcc ttatgtttgg ttcctatttg atggcctttt ctggtgccat ggcccacact 480
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atcctccctc tgctccagct ctcctgcacc agcacctaca tcaatgagct ggtggttttc 600
actgtggttg gcatcaacat cattgtgccc actgttacca tctttatctc ttatggtttc 660
atcctctcca gcatcctcca tatcagttcc aaggagggca ggtccaaagc tttcagcact 720

tgcagttccc atataattgc tgtttctctg ttctttggat caggtgcatt tatgtatctc 780
aacccatctt ctgctgggtc catggataag agaaaattat cttctgtctt ttatacaaat 840
gtggttccca tgttgaaccc cttaatctac agcctgagga acaaagatgt taaatttgcc 900
ctaagaaaag ccctgagtag taggaaactt tgataagtaa tagtatgtgt ctgtgtgtat 960
agtcacaaga cagggatatt ctgt 984

<210> 849
<211> 940
<212> DNA
<213> Unknown (H38g699 nucleotide)

<220>
<223> Synthetic construct

<400> 849
atgaaaccag ggaatgagac acaaatttca caattccttc tcctgggact ttcagaggaa 60
ccagaattgc agcccttcct ctttgggcta tttctgtcca tgtacctggt caccgtgctc 120
gggaacctgc tcatcatcct ggccacaatc tcagactccc acctccacac ccccatgtac 180
ttcttcctct ccaacctgtc ctttgcagac atctgttttg tgtctaccac tgtcccaaag 240
atgctggtga acatccagac acagagcaga gtcatcacct atgcagactg catcacccag 300
atgtgctttt ttatactctt tgtagtgttg gacagcttac tcctgactgt gatggcctat 360
gaccggtttg tggccatctg tcacccccctg cactacacag tcattatgaa ctcctggctc 420
tgtggactgc tggttctggt gtcctggatc gtgagcatcc tatattctct gttacaaagc 480
ataatggcat tgcagctgtc cttctgtaca gaattgaaaa tccctcattt tttctgtgaa 540
cttaatcagg tcatccacct tgcctgttcc gacactttta ttaatgacat gatgatgaat 600
tttacaagtg tgctgctggg tgggggatgc ctcgctggaa tattttactt actttaagat 660
actttgttgc atatgttcga tctcatcagc tcaggggatg aataaagcac tttccacctg 720
tgcatctcac ctctcagttg tctccttatt ttattgtaca ggcgtaggtg tgtaccttag 780
ttctgctgca acccataact cactctcaaa tgctgcagcc tcggtgatgt acactgtggt 840
cacctccatg ctgaacccct tcatctacag cctgaggaat aaagacataa acagagctct 900
gaatcgattc ttcagagagc agaaacagga gggccatttt 940

<210> 850
<211> 971
<212> DNA
<213> Unknown (H38g700 nucleotide)

<220>
<223> Synthetic construct

<400> 850
cacacagagc cacggaatct cacaggtgtc tgagaattcc tcctcctggg actctcagag 60
gatccagaac tgcagtcggt cctcgctttg ctgtccctgt ccctgtccct gaatctggtc 120
acggtgctga ggaacctgct cagcatcctg gctgtcagct ctgactcccc cctccacacc 180
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gttcccaagg tgattctgga tatgcagtcg catagcagag tcatctctca tgtggctgc 300
ctgacacaga tgtctttctt ggtccttttt gcatgtatag aaggcatgct cctgactgtg 360
atggcctatg gctgctttgt agccatctgt cgccctctgc actacccagt catagtgaat 420
cctcacctct gtgtcttctt cgttttggtg tcctttttcc ttaacctgtt ggattcccag 480
ctgcacagtt ggattgtgtt acaattcacc atcatcaaga atgtggaaat ctctaatttt 540
ttctgtgacc cctctcagct tctcaacctt gcctgttctg acagcgtcat caatagcata 600
ttcatatatt tcgatagtac tatgtttggt tttcttccca tttcagggat ccttttgtct 660
tactataaaa ttgtcccctc cattctaagg atgtcatcgt cagatgggaa gtataaagcc 720
ttctccacct atggctctca cctaggagtt gtttgctggt tttatggaac agtcattggc 780
atgtacctgg cttcagccgt gtcaccaccc cccaggaatg gtgtggtggc atcagtgatg 840
taggctgtgg tcacccccat gctgaacctt ttcatctaca gcctgagaaa cagggacata 900
caaagtgccc tgcggaggct gcgcagcaga acagtcgaat ctcatgatct gttccatcct 960
ttttcttgtg t 971

<210> 851
<211> 1014

<212> DNA
<213> Unknown (H38g701 nucleotide)

<220>
<223> Synthetic construct

<400> 851
cccattgagc agggaaatta caccagggtg aaggaatctc tttttcaag gactgaccca 60
gtcccaagag ctgagcttgg tcttatttct tttcttattt tttgtgtact cagcaactgt 120
gctgggtaac ctcctcatca tggtcgtggt gacctgtgag tctcgccttc acaccccac 180
gtacttcctg ctctgcaatc tctctgtgtt ggttatctgc ttctcctcca tcactgctcg 240
gaaggtgcta atagaccttt caagcagaaa gaccatctcc ttcaatggtt gcatgacaca 300
gatgtttttc ttccacctcc tcggtgggac agacgttttt tctctctttg tgatggcgtt 360
tgaccaatac atggccatct tcaagcccct gcactgtgtg accatcgtga gtaggggaca 420
gtgctcccct acatcgtgag tagggggcgt gagtgaggcg caggcctcat catggcttcc 480
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tggacatcat atgattgatg gtttctactg tgatgtcccc caggtcctca aacttgcctg 600
cacccacacc tttgctcttg aggtcttaat gatttccaat aatggcttga tctctatgct 660
gtggttcatc tttctcctca tatcttacac ggtcatcttg atgatgttga ggtctcacac 720
tgaggaaggc aggaggaaag ccatcgccac ctgcacctcc cacatcactg tggtgacccct 780
gcatttcgtg ccctgcatct atgtgcatgc ccagccttca ctgccctccc cacggacaga 840
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aggaaccagg agatgaagtc agccttgagg aggcggaaga aaagaccttc tggaaaggga 960
tagatgctac gaagtccaga ttggaaaatc agaactgaaa agtatttctt cata 1014

<210> 852
<211> 1004
<212> DNA
<213> Unknown (H38g702 nucleotide)

<220>
<223> Synthetic construct

<400> 852
tctacatacc cgcagaattt aacagatgtc tctttattcc tcctcctaga agctcagagg 60
atccagaaca gcagcctgtc ctcgctgggc tgttcctgtc catgtgcctg gtcacggtgc 120
tggggaacct gctcatcatc ctggccgtca gccctgactc ccacctccac acccccatgt 180
acctcttcct ctccaacctg tccttgcctg acatcggttt cacctccagc atggtcccca 240
agatgattgt ggacatctaa tctcacagca gactcatctc ctaggcaggc tgcctgactc 300
ccatgtctct ctttgccatt tttggaggca tggaagagag acatgctcct gagtgtgatc 360
cctatgaccc gtttgtagcc atctgtcacc ctctatatca ttcagccatc atgaacccgt 420
gtttctgtgg ctttctagtt ttgttgtctt ttttttctca gtctctttta gacgcccagg 480
tgcacaactt gattgcctta caaatgacct gcttcaagga tgtggaaatt cctaatttct 540
tctgggaacc ttctcaactc ccccatcttg catgttgcga caccttcacc aataacataa 600
tcatgtattc ccctgctgcc atatttggtt ttcttcccat ctcggggacc cttttctctt 660
actataagat tgtttcctcc attctgaggg tttcatcatc aggtgggaag tataaggcgt 720
gctccacctg tgggtctcac ctgtcagttg tttgctgatt ttatggaaca ggcttttggg 780
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acacggtggt cacccccatg ccgaacccct tcatctacag cctgagaaac agggatatta 900
aaagcgtcct gcggcggccg cacggcagca cagtctaatg tcaatatctc cttatctgtt 960
ccatgccttt tgtagtgtgg gttaaaaaag gcagcaaggt caaa 1004

<210> 853
<211> 945
<212> DNA
<213> Unknown (H38g703 nucleotide)

<220>
<223> Synthetic construct

<400> 853

atgaaaaact gtaccagggt aaaagaattt attttccttg gcctaaccca gaatggggac 60
acaagattgg tcctatttct tttcctactc ttggtgtaca tgacgactct gctgggaaac 120
ctcctcatca tggtcactgt cacctgtgaa tcttgccttc acatgcccat gtattttttg 180
ctccataatt tatctattgc cgatatctgc ttctactcca tcacagagcc caaggttctg 240
gtggaccttc tgtctgagag aaagaccatc tccttcaatg gttgcttcac tcagatgttt 300
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tatgtggcca tttccaagtc cctgcactat gcgaccatca tgagtagaga ccgttgcatt 420
gggctcacag tggctgcctg gttgggggc tttgtccact ccattgtgca gattaccctg 480
ttgctcccac tccctttctg tggaccaaat gttcttgaca ctttctactg tgatgttccc 540
caggttctca aactcgccca tacagacatt ttcatacttg agctgttgat gatttccaac 600
aatggactgc tcaccacact gtggtttttc ctgctcctgg tgtcctacat ggtcatatta 660
tcattactca agtctcaggc aggatagggc aggaggaaag tcatctccac ctgcacctcc 720
cacatcactg tggtgaccct gcatttgtg ccctgcatct atgtctatgc ccggcctttc 780
actgccctcc ccacggataa ggccatctct gtcaccttca ctgtcatctc ccctctgctc 840
aacccttgat ctacactctg agaaaccatg agatgaagtc aaccatgaag agactgaaga 900
ctctgacctt ctgataggaa atagaccagt gcttccctcc ttctc 945

<210> 854
<211> 962
<212> DNA
<213> Unknown (H38g704 nucleotide)

<220>
<223> Synthetic construct

<400> 854
cacacagagc cacggaatct cacaggtgtc tgaaaagtgc tcctgggact ctctctgaga 60
ggatccagaa ctgcagccca tcctcgctgg gctgtccctg tccatgtatc tggtcacggt 120
gctgaggaac gtgctcatca tcctggctgt cagctctgac tcccacctcc acacccccat 180
gtacttcttc ctctccagcc tgtgctgggc tgacatcggt ttcacctcgg ccactgttcc 240
caagatgact gtggacatgc agtcgcatag cagagtcatc tcttatgtga gctgcctgac 300
acagatatct ttcttggtcc tttttgcatg tatggaagac atgctcctgt gatggcctat 360
gacagagttg tggccatctg tcacccctg cactatccag tcatcatgaa tcctcacctt 420
cgtgtcttct tagttttgct gtccttttc cttagcttgt tggattccca gctgcacagt 480
tggattgtgt tacaattcac cttattcaag aatgtggaaa actctagttt tgtctgtgac 540
ccctctcaac ttctcaacct tgcctgttct gacagcgtca tcaatagcat attcatatat 600
ttcgatagta ctatgtttgg ttttcttccc atttcaggga tcctttatc ttactataaa 660
attgtcccct ccattctaag gatgtcatca tcagatggga agtataaagc cttctccacc 720
tatggctctc aactggcagc tctttgctga ttttatggaa caggcattgg catgtacctg 780
acttcagctg tggcactacc ccccaggaat ggtgtcgtgg catcagtgat gtaggctgtg 840
gtcaccccca tgctgaactt tttcatctac agcctgagaa acagggacat acaaagtgcc 900
ctgcggaggc tgcgcagcag aacagtcgaa tctcatgatc tgttccatcc tttttcttgt 960
gt 962

<210> 855
<211> 952
<212> DNA
<213> Unknown (H38g705 nucleotide)

<220>
<223> Synthetic construct

<400> 855
aagcagcagg aaaatgggac ctgtctggtg acagaattcc tgatgatggg attctccaac 60
ctcccacacc tgaggaacac actcttcacc ctgttcttcc ttacctacct ggtcaccctc 120
ggtggcaacg tcaccatcat caccatcacc catgcggata ggtcccgcca cactcccatg 180
taccacttcc tggtggtgct gtccctctcg gagacctgct atacacgctg gtcaccatcc 240
ccagcatgct ggctcatctg ctgatggaga ccaggccatc tccatccctg gctgtcaggc 300
tcagatgttt ttcttcctgg gtctgggatg cagccactgc ttcctcctta ccctgatggg 360
ttatgaccgc tatgtggcca tctgccaccc cctgcgctac tctatggtca tgagacccac 420
cgtttgcctc tgcctgggag ccctggtttt ctgctctggg ttctcggtgg ccttgatcga 480

gaccagcatg atcttctcat cgccctttg cggcggagac cacgtggagc acttcttctg 540
tgacatcgcc ccggtgctga agctcagctg cgccaagagt gccagcaagg cgctgggcat 600
ctttttcctg agcgtcctgg tggtgctgat gtccttcgtc ccgatcctct tctcctatgc 660
cttcatcgtg gctgccatcg tgaggatttc cttggcagcc ggccggcgca aggccttctc 720
cacctgtgtg gcccacgtca ccgtggtcgt agtacatttt gactgcgcct ccatcatcta 780
cttgcgtccg gagtccgggg ccaaccccga ccaggaccgc ttggtggctg tgttctacac 840
ggtggtgatg ccactgctga accctgtggt gtgcactctg tggaacaagg aggtgagagt 900
ggctctgagg aggaccctgg cgtggagccg tggggttttt aaataagaat ct 952

<210> 856
<211> 339
<212> DNA
<213> Unknown (H38g706 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(339)
<223> n = A,T,C or G

<400> 856
ctgctggacc acttcatctg tgagctgccg gcgttgctca agctggcctg cggaggcgac 60
ggagacacta ccgagaacca gatgttcgcc gcccgcgtgg tcatcctgct gctgccgttt 120
gccgtcatcc tggcctccta cggtgccgtg gcccgagctg tctgttgcat gcggttcagc 180
ggaggccgga gggagggcgg tgggcacgtg ttgggtccca cctgacagcc gtctgcctgt 240
tctacggctc ggccatctac acctacctgc agcccgcgca gcgctacaac cagcacgggn 300
ncagnttcgt atcgctcttc tacacccgtg gtcacaccc 339

<210> 857
<211> 939
<212> DNA
<213> Unknown (H38g707 nucleotide)

<220>
<223> Synthetic construct

<400> 857
atggatcaga gaaattacac cagagtgaaa gaatttacct tcctgggaat tactcagtcc 60
cgagaactga gccaggtctt atttaccttc ctgtttttgg tgtacatgac aactctaatg 120
ggaaacttcc tcatcatggt tacagttacc tgtgaatctc accttcatac gcccatgtac 180
ttcctgctcc gcaacctgtc tattcttgac atctgctttt cctccatcac agctcctaag 240
gtcctgatag atcttctatc agagacaaaa accatctcct tcagtggctg tgtcactcaa 300
atgttcttct tccaccttct gggggagca gacgtttttt ctctctctgt gatggcgttt 360
gaccgctata tagccatctc caagcccctg cactatatga ccatcatgag tagggggcga 420
tgcacaggcc tcatcgtggg cttcctgggt gggggcttg tccactccat agcgcagatt 480
tctctattgc tcccactccc tgtctgtgga cccaatgttc ttgacacttt ctactgcgat 540
gtcccccagg tcctcaaact tgcctgcact gacaccttca ctctggagct cctgatgatt 600
tcaaataatg ggttagtcag ttggtttgta ttcttctttc tcctcatatc ttacacggtc 660
atcttgatga tgctgaggtc tcacactggg gaaggcagga ggaaagccat ctccacctgc 720
acctcccaca tcaccgtggt gaccctgcat ttcgtgccct gcatctatgt ctatgcccgg 780
cccttcactg ccctccccac agacactgcc atctctgtca ccttcactgt catctcccct 840
ttgctcaatc ctataattta cacgctgagg aatcaggaaa tgaagttggc catgaggaaa 900
ctgaagagac ggctaggaca atcagaaagg attttaatt 939

<210> 858
<211> 486
<212> DNA
<213> Unknown (H38g708 nucleotide)

<220>

<223> Synthetic construct

<400> 858
gtagccatat gtaatccctt gctttatcca gtgatgatgt ccaacaaact cagcgctcag 60
ttgctaagta tttcatatgt aattggtttc ctgcatcctc tggttcatgt gagtttacta 120
ttgcgactaa ctttctgcag gtttaacata atacattatt tctactgtga aatttacaa 180
ctgttcaaaa tttcatgcaa tggtccatct attaacgcac taataatatt tatttttggt 240
gcttttatac aaatacccac tttaatgact atcataatct cttatactcg tgtgctcttt 300
gatattctga aaaaaaagtc tgaaaagggc agaagcaaag ccttctccac atgcggcgcc 360
catctgcttt ctgtctcatt gtactacgga actctgatct tcatgtatgt gcgtcctgca 420
tctggcttag ctgaagacca agacaaagtg tattctctgt tttacacgat tataattccc 480
ctgcta 486

<210> 859
<211> 774
<212> DNA
<213> Unknown (H38g709 nucleotide)

<220>
<223> Synthetic construct

<400> 859
atgtactact tcctctgcca cctggccttg gtagacgcgg gcttcactac tagcgtggtg 60
ccgccgctgc tggccaacct gcgcggacca gcgctctggc tgccgcgcag ccactgcacg 120
gcccagctgt gcgcatcgct ggctctgggt tcggccgaat gcgtcctcct ggcggtgatg 180
gctctggacc gcgcggccgc agtgtgccgc ccgctgcgct atgcggggct cgtctccccg 240
cgcctatgtc gcacgctggc cagcgcctcc tggctaagcg gcctcaccaa ctcggttgcg 300
caaaccgcgc tcctggctga gcggccgctg tgcgcgcccc gcctgctgga ccacttcatc 360
tgtgagctgc cggcgttgct caagctggcc tgcggaggcg acggagacac taccgagaac 420
cagatgttcg ccgcccgcgt ggtcatcctg ctgctgccgt ttgccgtcat cctggcctcc 480
tacggtgccg tggcccgagc tgtctgttgc atgcggttca gcggaggccg gaggagggcg 540
gtgggcacgt gtgggtccca cctgacagcc gtctgcctgt tctacggctc ggccatctac 600
acctacctgc agcccgcgca gcgctacaac caggcacggg gcaagttcgt atcgctcttc 660
tacaccgtgg tcacacctgc tctcaacccg ctcatctaca ccctcaggaa taagaaagtg 720
aaggggggcag cgaggaggct gctgcggagt ctggggagag gccaggctgg gcag 774

<210> 860
<211> 948
<212> DNA
<213> Unknown (H38g710 nucleotide)

<220>
<223> Synthetic construct

<400> 860
atgcagagag ccaatcactc cacagtgacc caattcatcc tcgtcggctt ctctgtcttc 60
ccccacctcc agctgatgct cttcctgctg ttcctgctga tgtacctgtt cacgctgctg 120
ggcaacctgc tcatcatggc caccgtctgg agcgagcgca gcctccacac gcccatgtac 180
ctcttcctgt gcgccctctc cgtctccgag atcctctaca ccgtggccat catcccgcgc 240
atgctggccg acctgctgtc cacccagcgc tccatcgcct tcctggcctg tgccagtcag 300
atgttcttct ccttcagctt cggcttcacc cactccttcc tgctcaccgt catgggctac 360
gaccgctacg tggccatctg ccaccccctg cgctacaacg tgctcatgag cccgcggggc 420
tgcgcctgcc tggtgggctg ctcctgggct ggtggcttgg tcatggggat ggtggtgacc 480
tcggccattt tccacctcgc cttctgtgga cacaaggaga tccaccattt tgcttgccat 540
gtgccacctc tgttgaagtt ggcctgtgga gacgatgtgc tggtggtggc caaaggcgtg 600
ggcttggtgt gtatcacggc cctgctgggc tgttttctcc tcatcctcct ctcctatgcc 660
ttcatcgtgg ccgccatctt gaagatccct tctgctgaag gtcggaacaa ggccttctcc 720
acctgtgcct ctcacctcac tgtggtggtc gtgcactatg gctttgcctc cgtcatttac 780
ctgaagccca aaagtcccca gtctctggaa ggagacacct tgatgggcat cacctacacg 840
gtcctcacac ccttcctcag ccccatcatc ttcagcctca ggaacaagga gctgaaggtc 900
gccatgaaga agaccttctt cagtaaactc tacccagaaa aaaatgta 948

<210> 861
<211> 674
<212> DNA
<213> Unknown (H38g711 nucleotide)

<220>
<223> Synthetic construct

<400> 861
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcctctccta tgcgggctgc ctgatcagat gtctctcttt gccacttttg 120
gaagcatgga agagaggcat gctcctgagt gtgatggcat atgaccggtt tgtagccatc 180
tgtcaccctc tatatcgttc agccatcttg aacccgtgat tctgtggctt cctagatttg 240
ttgtctttgt tttttttgt ttgtttgttt tgtttttctc agtcttctag actcccagct 300
gcacaacttg attgccttac aaatgacctg ctccaaggat gtggaaattc ctaatttctt 360
ctgggaacct tctcarctcc cccatcttgc atgttgtgac accttcacca ggaacatcaa 420
catgtatttc cctgctgccg tatttggttt tcttcccatc tcagggacct tttctcttac 480
tgtaaaattc tttcctccat tctgagggtt tcatcatcag gtgggaagta taaaccttct 540
ccacctgtgg gtctcacctg tcagttgttt gctgatttta tggaacaggc gttggagggt 600
acctcggttc agatgtgtca tcttccccga gaaagrgtgc agtggcctca gtgatgtaca 660
yggtggtcac cccc 674

<210> 862
<211> 653
<212> DNA
<213> Unknown (H38g712 nucleotide)

<220>
<223> Synthetic construct

<400> 862
ttgcctgaca tcggtttcac ctccaccatg gtccccaaga tgattgtgga atccaatctc 60
acagcagagt catctcctat gcaggccgcc tgactcagat gtctctcttt gccattttg 120
gaggcatgga agagagacat gctcctgagt gtgatggcct atgaccggtt tgtagccatc 180
tgtcaccctc tatgtcattc agccatcacg aacccgtgtt tctgtggctt tctagttttg 240
ttgtcttttt tttttctcag tcctttagac gcccagctgc acaacttgat tgccttacaa 300
aggacctgct tcaaggatgt ggaaattcct aatttcttct gtgacccttc tcaattcccc 360
gtcttgcatg ttgtggcacc ttcaccaata acataatcat gtatttccct gctgccatat 420
ttggttttct tcccatctcg gggacccttt tctcttacga taaaattgtt ttctccattc 480
tgagggtttc atcatcaggt gggaagcata aggccttctc caccaggggg tctcacctgt 540
cagttgtttg ctgattttat ggaacaggcg ttggagagta cctcggttca gatgtgtcat 600
cttccccgag aaagggtgca gtggcctcag tgatgtacac ggtggtcacc ccc 653

<210> 863
<211> 648
<212> DNA
<213> Unknown (H38g713 nucleotide)

<220>
<223> Synthetic construct

<400> 863
ctggtggact ttggatactc ctcagctgtc actcccaagg tcatggctgg gttccttata 60
gaagacaagg tcatctctta caatgcatgt gctgctcaaa tgtatatctt tgtagctttt 120
gccactgtgg aaaattacct cttggcctca atggcctatg accgctatgc agcagtgtgc 180
aaacccctac attacaccac aaccatgaca acaactgtgt gtgctcgtct ggccataggc 240
tcctacctct gtggtttcct gaatgcctcc atccacactg ggacacatt tagtctctct 300
ttctgtaagt ccaatgaagt ccatcacttt ttctgtgata ttccagcagt catggttctc 360
tcttgctctg atagacatat tagcgagctt gttcttattt atgttgtgag cttcaatatc 420
tttatagctc tcctggttat cttgatatcc tacacattca tttttatcac catcctaaag 480

atgcactcag cttcagtata ccagaagcct ttgtccacct gtgcctctca tttcattgca 540
gtcggcatct tctatgggac tattatcttc atgtacttac aacccagctc cagtcactcc 600
atggacacag acaaaatggc acctgtgttc tatacaatgg tcatcccc 648

<210> 864
<211> 645
<212> DNA
<213> Unknown (H38g714 nucleotide)

<220>
<223> Synthetic construct

<400> 864
attgttgaca tatcctatgc ttccaactat gtccccaaga tgctgacgaa tcttatgaac 60
caggaaagca ccatctcctt ttttccatgc ataatgcaga cattcttgta tttggctttt 120
gctcacgtag agtgtctgat tttggtggtg atgtcctatg atcgctatgc ggacatctgc 180
cacccccttac gttacaatat cctcatgagc tggagagtgt gcactgtcct ggctgtggct 240
tcctgggtgt tcagcttcct cctggctctg gtccctttag ttctcatcct gaggctgccc 300
ttctgcgggc ctcatgaaat caaccacttc tgtgaaatcc tgtctgtcct caagttggcc 360
tgtgctgaca cctggctcaa ccaggtggtc atctttgcag cctgcgtgtt catcctggtg 420
gggccactct gcctggtgct ggtctcctac ttgcgcatcc tggccgccat cttgaggatc 480
cagtctgggg agggccgcag aaaggccttc tccacctgct cctcccacct ttgcgtggtg 540
ggactcttct ttggcagcgc cattgtcacg tacatggccc ccaagtcccg ccatcctgag 600
gagcagcaga aagttctttc cctgttttac agccttttca atcca 645

<210> 865
<211> 486
<212> DNA
<213> Unknown (H38g715 nucleotide)

<220>
<223> Synthetic construct

<400> 865
gtggccatct gtaaacccct tcattatgtg gtcatcatga acaacagggt gtgtacctta 60
ttagttctct gctgttgggt ggctggcttg atgatcattg ttccaccact tagcttaggc 120
ctccagctcg aattctgtga ctccaatgcc attgatcatt ttagctgtga tgcaggtcct 180
ctcctaaaga tctcatgctc agatacatgg gtaatagaac agatggttat acttatggct 240
gtatttgcac tcattatcac cccagtttgt gtgattctgt cctacttgta catagtcaga 300
acaattctga agttcccttc tgttcagcaa aggaaaaagg ccttttctac ctgttcatcc 360
cacatgattg tggtttccat tgcctatgga agctgcatct tcatctatat caagccctct 420
gcaaaagatg aggtggccat aaataaagga gtttcagttc ttactacttc tgtcgcaccc 480
ttgttg 486

<210> 866
<211> 670
<212> DNA
<213> Unknown (H38g716 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(670)
<223> n = A,T,C or G

<400> 866
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagagaca tgctcctgag cgtgatggcc tacgaccagt ttgtagccat 180
ctgtcaccct ccatatcgtt cagccatctt gaacccgtgt ttctgtggct tccaagattt 240

gttgtccttg tnttttttc ttttttttt tttttcctca ggctttaga ctcccagctg 300
cataacttga ttgccttaca aatgacctgc ttcaaggatg tggaaatttc taatgtcttc 360
tgggaacctt ctcaactctc ccatcttgca tgttgtgaca ccttcaccag gaacatcagt 420
atttccctgc tgccatattt ggttttcttc ccatcttggg gaccctttc tcttactgta 480
aaattgtttc ctccattctg agggtttcat catcaggtgg gaagtataaa ccttctccac 540
ctgtgggtct cacctgtcag ttgtttgctg attttatgga acaggtgttg gagggtacct 600
cagttcagat gtgtcatctt ccctgagaaa ggctgcagtg gcctcagtga tgtacaagat 660
ggtcaccccc 670

<210> 867
<211> 654
<212> DNA
<213> Unknown (H38g717 nucleotide)

<220>
<223> Synthetic construct

<400> 867
ttggctgaca tcggtttcac ctccaacacg gtccccaaga tgattgtgga catccaatct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgctgttttt 120
ggaggcatgg aagaaagaca tgctcctgag tgtgagggcc tatgaccggt ttgtagccat 180
ctgtcaccct ctatattatt cagccatcat gaacccatgt ttctgtggct tcctagtttt 240
gtgtttttt tttttctcag tcttttagac tcccagctgc acaatttgat tgccttacaa 300
atgacctgca tcaaggatgt ggaaattcct aatttcttct gtgacccttc tcaactcccc 360
catcttgcat gttgtgacac cttcaccatt aacatagtca tgtatttccc tgccgccata 420
tttggttttc ttcccatctc ggggaccctt ttctcttact ctaaaattgt ttcctccatt 480
ctgagggttt catcatcagg tgggaagtat aaagccttct ccacctgtgg gtctcacctg 540
tcagttgttt gctgagttta tggaacaggc gttggaggtt acctcagttc agatgtgtca 600
tcttccctga gaaaggctgc agtggcctca gtgatgtaca cggtggtcac cccc 654

<210> 868
<211> 882
<212> DNA
<213> Unknown (H38g718 nucleotide)

<220>
<223> Synthetic construct

<400> 868
ttgattttct tcttaatcta tccgcttatc ctggtgggta atgaccagat cctggtggtt 60
gtgatggcag aggccagcct tcacaagcct gtgtacttct tcctgataaa cctctcagcc 120
ctagacatcc tctccactac agtcactgtc cccaagacgc tgcccctgtt cttgcttggg 180
gaccacttcc tcagcttccc tgcctgcttc ctacagatgt acctgttcca cagcttctcc 240
tgctcagaag ccttcatcct ggtggtcatg gcctatgacc gctatgtagc tatctgccac 300
ccactgcaat accctgttct catgaaccca cagaccaatg ctgtcttggc aaccggtgcc 360
tggctcactg ccctcctcct gcccattcca gcagtagtac agacctccca gatggcattt 420
gacagcattg ctgacatcta ccactgcttc tgtgatcatc tggctgtggt ccaggcctcc 480
tgctctgata ccacccccag accttcatgg gtttctgcat cgccatggtg gtgtccttcc 540
tccccttct cctggtgctt ctctcctatg cccacatctt gacctcggtg cttcgcatta 600
actcccaaga aggacgctcc aaagccttct ccacctgcag ctcccatctc ccggtagtgg 660
gcacctacta ctcatccatt gccatagcct atgtggccta cagcgctgac ctgcccctcg 720
acttccacgt catgggcaat gttgtacatg tcttcttctt cctcttcttc ttcttcttcc 780
tcttcctctt cttcctcttc ctcttcgtct tcctcttctt cttcttctcc ttctccttcc 840
tcttcctctt cttctccttc tccttcttct tctttcttct tt 882

<210> 869
<211> 934
<212> DNA
<213> Unknown (H38g719 nucleotide)

<220>

<223> Synthetic construct

<400> 869
atggagatgg aaaactgcac cagggtaaaa gaatttattt tccttggcct gacccagaat 60
cgggaagtga gcttagtctt atttcttttc ctactcttgg tgtatgtgac aactttgctg 120
ggaaacctcc tcatcatggt cactgttacc tgtgaatctc gccttcacac gcccatgtat 180
tttttgctcc ataatttatc tattgccgat atctgcttct cttccatcac agtgcccaag 240
gttctggtgg accttctgtc tgaaagaaag accatctcct tcaatcattg cttcactcag 300
atgtttctat tccaccttat tggaggggtg gatgtatttt ctctttcggt gatggcattg 360
gatcgatatg tggccatctc caagcccctg cactatgcga ctatcatgag tagagaccaa 420
tgcattgggc tcacagtggc tgcctggttg gggggctttg tccactccat cgtgcagatt 480
tccctgttgc tcccactccc tttctgcgga cccaatgttc ttgacacttt ctactgtgat 540
gtccaccggg tcctcaaact ggcccataca gacattttca tacttgaact actaatgatt 600
tccaacaatg gactgctcac cacactgtgg tttttcctgc tcctggtgtc ctacatagtc 660
atattatcat tacccaagtc tcaggcagga gagggcagga ggaaagccat ctccacctgc 720
acctcccaca tcactgtggt gaccctgcat ttctgtgccc tgcatctatg tctatgcccg 780
gcccttcact gccctcccca tggataaggc catctctgtc accttcactg tcatctcccc 840
tctgctcaac cccttgatct acactctgag gaaccatgag atgaagtcag ccatgaggag 900
actgaagaga agacttgtgc cttctgatag aaaa 934

<210> 870
<211> 898
<212> DNA
<213> Unknown (H38g720 nucleotide)

<220>
<223> Synthetic construct

<400> 870
acaatgcagc aaaataacag tgtgcctgaa ttcatactgt taggattaac acaggatccc 60
ttgaggcaga aaatagtgtt tgtaatcttc ttaattttct atatgggaac tgtggtgggg 120
aatatgctca ttattgtgac catcaagtcc agccggacac taggaagccc catgtacttc 180
tttctatttt atttgtcctt tgcagattct tgcttttcaa cttccacagc ccctagatta 240
attgtggatg ctctctctga aaagaaaatt ataacctaca atgagtgcat gacacaagtc 300
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cgctatgtgg ccatctgtaa gcccttgcgt tacccaacca tcatgagcca gcaggtctgc 420
atcatcctga ttgttcttgc ctggataggg tctttaatac actctacagc tcagattatc 480
ctggccttaa gattgccttt ctgtggaccc tatttgattg atcattattg ctgtgatttg 540
cagcccttgt tgaaacttgc ctgcatggac acttacatga tcaacctgct gttggtgtct 600
aacagtgggg caatttgctc aagtagtttc atgattttga taatttcata tattgtcatc 660
ttgcattcac tgagaaacca cagtgccaaa gggaagaaaa aggctctctc cgcttgcacg 720
tctcacataa ttgtagtcat cttattcttt ggcccatgta tattcatata tacacgcccc 780
ccgaccactt tccccatgga caagatggtg gcagtatttt atactattgg aacacccttt 840
ctcaatccac tcatctacac atctgaggaa tgcagaagtg aaaaatgcca tgagaaag 898

<210> 871
<211> 943
<212> DNA
<213> Unknown (H38g721 nucleotide)

<220>
<223> Synthetic construct

<400> 871
atggagttgg gaaatgtcac cagagtaaaa gaatttatat ttctgggact tactcaatcc 60
caagaccaga gtttggtctt gtttcttttt ttatgtcttg tgtacatgac gactctgctg 120
ggaaacctcc tcatcatggt caccgtgacc tgtgagtctc gccttcacac ccccatgtac 180
ttcctgctcc gcaatctagc catccttgac atctgcttct cctccacaac tgctcctaaa 240
gtcttgctgg accttctgtc aaagaaaaag accatatcct atacaagctg catgacacag 300
atatttctct tccacctcct tggtggggca gacatttttt ctctctctgt gatggcgttt 360
gactgctaca tggccatctc caagcccctg cactatgtga ccatcatgag tagagggcaa 420

tgcactgccc tcatctctgc ctcttggatg gggggctttg tccactccat cgtgcagatc 480
tccctgttgc tgcctctccc tttctgtgga cccaatgttc ttgacacttt ctactgcgat 540
gtcccccagg tcctcaaact cacttgcact gacacttttg ctcttgagtt cttgatgatt 600
tccaacaatg gcctggtcac taccctgtgg tttatcttcc tgcttgtgtc ctacacagtc 660
atcctaatga cgctgaggtc tcaggcagga gggggcagga ggaaagccat ctccacttgc 720
acctccccac atcactgtgg tgaccctgca ttttgtgccc tgcatctatg tctatgcccg 780
gcccttcact gccctcccca cagaaaaggc catctctgtc accttcactg tcatctcccc 840
tctgctgaac cctttgatct acactctgag gaaccaggaa atgaagtcag ccatgagaag 900
actgaagaga agactcgtgc cttctgaaag ggaatagaaa aca 943

<210> 872
<211> 942
<212> DNA
<213> Unknown (H38g722 nucleotide)

<220>
<223> Synthetic construct

<400> 872
atgctggggc taaaccacac ctccatgtct gaattcatcc tcgtcggctt ctctgccttc 60
ccccacctcc aactgatgct cttcctgctg ttcctgctga tgtacctgtt cacgctgctg 120
ggcaacctgc tcatcatggc caccgtctgg agcgagcgca gcctccacac gcccatgtac 180
ctcttcctgt gcgtcctctc agtctccgag atcctctaca ccgtggccat catcccgcgc 240
atgctggccg acctgctgtc cacccagcgc tccatcgcct tcctggcctg tgccagtcag 300
atgttcttct ccttcagctt cggcttcacc cactccttcc tgctcaccgt catgggctac 360
gaccgctacg tggccatctg ccaccccctg cgctacaacg tgctcatgag cccacggggc 420
tgcgcctgcc tggtgggctg ctcctgggct ggtggctcgg tcatggggat ggtggtgacc 480
tcggccattt tccaactgac tttctgtgga tcccatgaga tccagcattt tttatgtcat 540
gtgccacctc tgttgaagtt ggcctgtgga aataatgtac cagctgtggc cctgggcgtg 600
ggcttggtat gtatcatggc actgctgggc tgttttctcc tcatcctcct ctcctatgcc 660
ttcatcgtgg ccgacatctt gaagatccct tctgctgaag gtcggaacaa ggccttctcc 720
acctgtgcct ctcaccttat tgtggtcatt gtgcactatg gctttgcctc tgtcatctac 780
ctcaagccca aaggtcccca ctctcaggag ggtgacaccc tgatggccac cacctacgca 840
gtcctcacgc ccttcctcag ccccatcatc ttcagcctca ggaacaaaga actgaaggtt 900
gccatgaaga ggaccttcct cagcacactc tattcctcag gc 942

<210> 873
<211> 948
<212> DNA
<213> Unknown (H38g723 nucleotide)

<220>
<223> Synthetic construct

<400> 873
atgcctggtc agaactacag aaccatatct gaatttatcc tctctggctt ctcagccttc 60
ccccagcagc tcctgcctgt cttgttcctg ctgtacctcc tgatgttcct gttcacattg 120
cttggcaacc ttcttatcat ggccacagtt tggattgaac gcagactcca cacacccatg 180
tacctcttct tgtgtgccct ctccatctct gagattctgt tcactgttgc catcaccccct 240
cgcatgctgg ctgatctgct cttcacccat cgttccatca cctttgtggc ttgtgccatt 300
cagatgttct tctccttcat gtttggcttc actcactcct tccttctcat ggtcatgggc 360
tatgatcact acgtgaccat ctgccaccca ctgcattaca acatgctaat gagtccccgt 420
ggctgtgccc atcttgtggc ctggacctgg gctggtggct cggtcatggg gatgatggtg 480
acaatgatgg tttttcacct cactttctgt gggtctaatg tgatccacca ttttctctgt 540
catgtgcttt ccctcttgaa gttggcctgt gggagcaaga catcatctgt catcatgggt 600
gtgatgctgg tgtgtgtcac agccctgata ggctgtttgt tcctcatcat cctctccttt 660
gtcttcattg tggctgccat cttgaggatt ccttctgctg agggccggca caagactttc 720
tccacttgtg tatcccacct cactgtggtg gtcatgcact atagttttgc ctcccttatc 780
tacctcaaac ccaagggcct ccattctatg tacagtgatg ccttgatggc caccacctat 840
actgtcttca cccccttcct cagcccaatc attttcagtc taaggaacaa ggagctgaag 900
aatgccataa ataaaaactt ttgcagaagg ttctgccctc taagctcc 948

<210> 874
<211> 484
<212> DNA
<213> Unknown (H38g724 nucleotide)

<220>
<223> Synthetic construct

<400> 874
ggatggaaat acaagcacct tcaacatctc ctgcaccaag ttcttcctgg tgggtttccc 60
tggacttcga gagtggtggc cccttctggt cctgcctctt gtcttcctct ttgtgaccat 120
catctctgcc aatgccctgg tcatccacac agtggttgcc cggcaaaatc tgcatcagcc 180
tacgtgtatg ctcatcactg tgctcctggc tgtcaatatt cgtgctgcca cagccgtgat 240
gcctaaaatg ctggagggct ttgtatatta tgctaacccc atatcgctgc atggccgcct 300
ggcctaggtg ttctttatct acttcaccct cctcctggac tacaacttcc tctggccctg 360
gccctggact ggttactttg ccatctgcca cccactctgc ttttctgacc tgatgacctc 420
ccagctgctg ggactgctgg ccattcttgc ctttgaacaa agccctggga gtgaccccgc 480
ccct 484

<210> 875
<211> 595
<212> DNA
<213> Unknown (H38g725 nucleotide)

<220>
<223> Synthetic construct

<400> 875
gtagccatct ggccaccctc tctgttttca aactgaatga cttcccagct ggctgggatt 60
gctggccatt cttgccttga cacagagctg gggagtgaca gtgcctttgg tagtactaac 120
tgcaaaagcc gatttctgcc ggacagcagt gattcgacac ttcacctgtg agtgcattgc 180
actgctgagc atagcttgtg gagacctgac cttcaacaac tggctggggc tggctatgtg 240
tttggtcact gtaatctctg atatggccct gctggggacc tcctacaccc acatcatcta 300
tgctgccttc cggatctctt cttggggagc ccaagccaag gccttacaca cgtgtggctc 360
ccacctactg gtcatcctct ccatctacgt ctctggtctt tccacttcca tcaccttctg 420
agtagccaag actgtgtccc agaatgtcca gaatctactc agtgccatat acttgctgct 480
tccaggagcc ttgaatcctg tcatttatgg ggtgaggact agggagatcc agcaacatgt 540
agaaaagatg ctctgtgaaa aggaaacagc ccagaaggct ggggagaagc caaag 595

<210> 876
<211> 944
<212> DNA
<213> Unknown (H38g726 nucleotide)

<220>
<223> Synthetic construct

<400> 876
ttcagtcaga acttgctgat ctctgggtct gggtcctttg tcctgctggg gatgccggga 60
ctggaggctc tgcatgcctg gctctctgtg cctgtgtgcc tgctctacat ggcagctttg 120
gtagggaatg cccttctagt ggggctgggt ggtcgctgac aaggcactct gggcacccat 180
gtaccagctg ctgtggcttc tggcagctgc tgattttgtt ctggccacat ccacagtgcc 240
caaagctctg gctgtacttt ggggcttgtc tagtgagata tcatttggag gctgcttggc 300
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ggtctagtgg ctctgactac catgacccgt gatgtctgtg tcatgtacac cctgtgatcc 480
tgttcaagaa actgccttac tgtggacagt gggccctgcc ccacacctac tgcgaacaca 540
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ccacactgct ctccccagcc ctggacctag ggctcatagg tgcttcctat gccctcattt 660
tccgtgctgt ctgccgtctg ccatcccatg ttgcctgcca caaggctctg ggtaactgcg 720

ggacctatgc tagcatcatt ggtctcttct acacacctgc cctcttctcc ttccttgctc 780
actgttttgg gtgtcacaca gtgcccaacc atattcacat cctactggct aacctctacg 840
cagtggtgtt cccagctttc aatcctgtgg tctatggagt gcagactcag cagagctcag 900
aggctcagga acttgcttca acttttctgg gcaggagcag tgaa 944

<210> 877
<211> 939
<212> DNA
<213> Unknown (H38g727 nucleotide)

<220>
<223> Synthetic construct

<400> 877
atgaattggg aaaatgagag ctccccaaaa gagtttatac tacttggctt ctcagatagg 60
gcttggctac aaatgcccct ttttgtggtc ctgttaatat catacacaat caccatattt 120
ggcaatgtgt ccatcatgat ggtgtgcatt ctggatccca aacttcatac tcccatgtat 180
ttctttctca ctaatctctc catcttagat ctctgctata ccacaactac agtccctcat 240
atgttggtaa atattggttg caacaaaaag accatcagct atgctggctg tgtggcccac 300
ctcatcatct tcctggccct aggtgctaca gagtgtctcc ttctggctgt tatgtccttt 360
gacagatatg tggctgtttg cagacccctc cactatgtag tcatcatgaa ttattggttc 420
tgcctaagga tggcagcctt ctcatggctc attggtttcg gcaactcagt gctgcagtct 480
tccttgactc ttaacatgcc acgctgtggt caccaggaag tggaccactt tttctgtgag 540
gtgcctgcac ttctcaagtt gtcatgtgct gacacaaagc ctattgaggc tgagctcttc 600
ttctttagtg tactaattct tctaattcca gtgacattga tcctcatctc ctatggcttc 660
atagctcaag cagtattaaa aatcaggtca gcagaaggac ggcaaaaagc atttgggaca 720
tgtgggtccc acatgattgt ggtgtccctc ttttatggaa cagccattta tatgtatctt 780
caaccacctt catccacctc taaggactgg ggaaagatgg tttccctctt ctatggaatc 840
atcacatcca tgttgaactc cctcatctac agccttagaa ataaagatat gaaggaggcc 900
ttcaagaggc tgatgccaag aatctttttc tgtaagaaa 939

<210> 878
<211> 968
<212> DNA
<213> Unknown (H38g728 nucleotide)

<220>
<223> Synthetic construct

<400> 878
ggcacattga atttaagtag cttcaatcca ggactcttca ttctgttggg gatcccaggg 60
ctggagtggt tctgcatctg gatgggaatt ctctccttta ccagttacct tgtctccctt 120
gcagggaatg tcatccttct ctaccttatc actgtggaac acaacctcca taaacccatg 180
ttttccttcc tctctatacc ggcctctgca aacctcatat tatgcattac atatttcccc 240
aaaacatttg ggatattcta gctgaaagct cagaaaataa tatttcctgg atgcttcacc 300
aggttttttt tttttggtct acttcacttt agcttttttt ctggacttgg ccatcttgtt 360
gggtctggca tttgatcatt acatgaccat tggtttcctt ctgagataca ccagtggctt 420
gacacctcaa cacttggcaa gattgtggtg agcattgatt gaaggtttaa taacattttg 480
cccattgatt tcctggggaa gcatttgccc ttctgcagaa cacacattaa ttctaacaca 540
tactgtgagc acataggtgt ggccctgctt tcctatgctg atatctccat caatatctgg 600
tatgacttta ctatattggt aatgactatt atctcagatc tgatcctcac tgatatttcc 660
tacaccctca cccttcatgc tgttttccac cttccatcca gtgatgccct tctgaaggcc 720
ctaagcacct gtggttctca tgtcagtgtc attctcatgt tgtacacacc aaccatgctt 780
tctgccctta ctcatcactt tggccagagt atctcttgca ctttttacat tatgtttgtg 840
ggcctctata gggcaatccc tcctgtactc aattccataa ttatggagta aaaacaaagc 900
agattggaaa caaggtcata cttttattct ttcttaaagg gatgcagtga tatgaggatg 960
agaatatg 968

<210> 879
<211> 1011
<212> DNA

<213> Unknown (H38g729 nucleotide)

<220>
<223> Synthetic construct

<400> 879
atgaaaaaaa atgcaagttt tgaagacttc tttattctac ttggattttc taactggcct 60
catctggaag tagttctctt tgtggttatc ttgatcttct acttgataac actgatagga 120
aacctgttca tcatcatcct gtcatacctg gactcccatc tccacactcc catgtacttc 180
ttcctttcaa atctctcatt tctggatctc tgctacacca ccagctctat ccctcagttg 240
ctggtgaatc tctggggccc ggaaaagacc atctcttatg ctggttgtac agttcaactt 300
tactttgttc tcgcactggg aaccgcagag tgtgtcctac tggtggtgat gtcctatgat 360
cgttatgcag ctgtgtgtag acctttgcat tacactgtcc tcatgcaccc tcgtttctgc 420
cgcttgttgg ctgcggcttc ttgggtaagt ggttttacaa cctcagcact tcattcctcc 480
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ccagcacttc tgcgattatc atgtgttgat acctaggcaa atgagctgac cctcatggtc 600
atgagctcca tttttgttct catacctctc atcctcatcc tcacttccta tggtgccatt 660
gcccgggctg tactgagcat gcaatcaacc actgggcttc agaaagtgct taggacatgt 720
ggagcccatc ttatggttgt atctctcttt ttcattccag tcatgtgcat gtatctccag 780
ccaccatcag aaaattctca agatcaaggc aagttcattg ccctctttta cactgttgtc 840
acacctagtc ttaaccctct aatctacact ttcagaaaca aggatgtaag aggggcagtg 900
aagagactaa tggggtggga atgggggatg tgacagggaa atcatgttgg ctgttgtttt 960
tcctagggtc ttatccattt tgaaaggttg tttccctgct tctttgtgat t 1011

<210> 880
<211> 956
<212> DNA
<213> Unknown (H38g730 nucleotide)

<220>
<223> Synthetic construct

<400> 880
atggccatgt acaacatgag tgaccatggt acaggcctgt tcatcctttt gggtatccct 60
ggacttgagc agtaccacgt ctggatcagc atcccattct gcttaatcta tctcatggct 120
gtcgtggcca agagtatcct tctctacctc attgtggtag agcacagtct tcatgcaccc 180
atgttctttt tcctttccat gctggccatt actgatctca tattgtccac cacatgtgtc 240
cccaaaacac ttagcatctt ctggtttggt ccccaaacag tttccctggc tgtctcaccc 300
aattattctt tctgcactat agctttgtgt tggactcagc tatactgctg gccatggcat 360
ttgaccgcta tatggccatt tgctcaccct tgagatacac tactattctg actcccaaaa 420
ccattgtcaa aattgctgtg ggaatatgtt tccgaagttt ctgtgttttt gtcccgtgtg 480
ttttccttgt gaatcgttta cccttctgca ggacacacat catttctcac acatactgtg 540
agcacatagg tgttgcccag cttgcctgtg ctgatatctc catcaatatc tggtgtggat 600
tttgtgttcc catcatgacg gtgatgacag acgtgatcct cattgctgtc tcctacaccc 660
tcatgctctg tggtgtcttt tgcctcccct cccaagatgc ccgtcagaag gcccttttgct 720
cctgtggttc ccatgtctgt gttatcctca tattctatac accagcattc ttctccatcc 780
ttgcccatcg ctttgggcat aatgtccctc ataccttca tattatgttt gccaaccttt 840
atgtaatcat tccacctgct ctcaacccta ttgtctacag aataaagacc aagcaaatcc 900
agaacagaat ccttttgctc tttcccaagg ggtcccagtg ataggtgcct gagctc 956

<210> 881
<211> 933
<212> DNA
<213> Unknown (H38g731 nucleotide)

<220>
<223> Synthetic construct

<400> 881
atgaatgatg atggaaaagt caatgctagc tctgaggggt actttatttt agttggattt 60
tctaattggc ctcatctgga agtagttatc tttgtggttg tcttgatctt ctacttgatg 120

acactgatag gaaacctgtt catcatcatc ctgtcatacc tggactccca tctgcacaca 180
ccaatgtact tcttcctttc aaacctctca tttctggatc tctgctacac caccagctct 240
atccctcagt tgctggtcaa tctctggggc ccggaaaaga ccatctctta tgctggttgc 300
atgattcaac tttactttgt tctcgcactg ggaaccacag agtgtgtcct actggtggtg 360
atgtcctatg accgttatgc agctgtgtgt agacctttgc attacactgt cctcatgcac 420
cctcgtttct gccacctgct ggctgtggct tcttgggtaa gtggttttac caactcagca 480
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ttctgtgaag ttccagcact tctgcgatta tcgtgtgttg atacccatgt caatgagctg 600
accctcatga tcacaagctc catatttgtt ctcatacctc tcatcctcat tctcacttct 660
tatggtgcca tcgtccgagc tgtactgagg atgcagtcaa ccactgggct tcagaaagtg 720
tttggaacat gtggagctca tcttatggct gtatctctct ttttcattcc ggccatgtgc 780
atatatctcc agccaccatc aggaaattct caagatcaag gcaagttcat tgccctcttt 840
tatactgttg tcacacctag tcttaaccct ctaatctaca ccctcagaaa caaagttgta 900
agaggggcag tgaagagact aatggggtgg gaa 933

<210> 882
<211> 264
<212> DNA
<213> Unknown (H38g732 nucleotide)

<220>
<223> Synthetic construct

<400> 882
tttattcatg ccctctcagt cattgaatcc atcattgtgc tggccatggc ctttgagcgt 60
tatgtggcca tatgccaccc actgtgccat gctgaagtgc tcaacagtac agtaacagcc 120
catattggca tcgtagctgg ggtacgggga tccctctttt tttccccact ggctctgctg 180
ataaagacgc tgggcttatg ccactcctat gtgctctcgc actcctattc gctccaccag 240
gatgtagcga acttgtccta tgcg 264

<210> 883
<211> 477
<212> DNA
<213> Unknown (H38g733 nucleotide)

<220>
<223> Synthetic construct

<400> 883
gttgccatct gtaacccttt gcgctacctt acagtcatga acccccagct atgcctttgg 60
ttggttcttg cctgctggtg tgggggtttt atccactcta tcatgcaggt catactagtc 120
atccagctgc ctttctgtgg gcccaatgaa ctggacaact tctactgtga tgtcctacaa 180
atcatcaagc tggcctgcat ggacacctat gtggtagagg tgctggtgat agccaacagt 240
ggtctgctgt ctcttgtctg cttcttggtc ttactattct cttatgctat catcctgatc 300
accctgagaa cacgcttctg ccagggccag aacaaggtcc tctctacctg tgcttctcac 360
ctgacagtgg tcagcctgat cttcgtgcca tgcgtattca tctatttgag gcctttctgc 420
agcttctctg tggataagat attctccttg ttttacacag tgattacacc tatgttg 477

<210> 884
<211> 948
<212> DNA
<213> Unknown (H38g734 nucleotide)

<220>
<223> Synthetic construct

<400> 884
atgtcagctc ccaaccactc cactgccaat catgatatgt ttgtcctcat tggcgttcct 60
ggcctgaagg agctgcacgt gtggatctcc atccccttct gtctgatgta cctggtggct 120
gtgtcaggaa atggtctcct tgtctgtgtg gtggcagtgg agcacagtct tcatgaacct 180
atgtaccttt tcctctccat gctggcattt tgggatctga ttctatccac atctgcagta 240

cccaaagcct tgagcatttt ctggtttgat gatgtggaca tctcctttgg tggctgtgtc 300
actcagctct tttttatgca ttttgccttt gtagcggagt caggcattct cttgaccatg 360
gctttcgacc gctatgtggc catctgctac ccattgaggt atagcaccat acttagccac 420
agtgttattg gcaaaattgg gggtgtcgtg gtgttcagga gttttgcaac tgtcttctcc 480
atcgtcttcc ttgtgaagcg tctgcccttc tgccggacaa acatcattgc ccacaccttc 540
tgtgaacaca tggggctggc aaagctaggt tgttctgaaa tcaccatcaa tatttggtat 600
ggaatctctg taccactact cagtgttacg ttagatatgg tgacaatagt catctcctag 660
gggctcatag ttcaagcagt cttcaggctg ccctcccttg gtgcttggat gaaagcactc 720
agcacctgtg gttcccatgg cagtgtcatc ctcatgttct gccttccagg aattttcact 780
gtcattgttc agcgctttgc ctgaaaattt cccaagtatg tccacatcct gctggccaat 840
ctctatgttc ttgttccccc catgatgaac ccaattatct atggagtaaa gactaaacag 900
attcagaaag ggttgccct tgtgttttct ccaaaaggaa aatgttgc 948

<210> 885
<211> 1087
<212> DNA
<213> Unknown (H38g735 nucleotide)

<220>
<223> Synthetic construct

<400> 885
atgccactaa ctaatgaaag ccaccctgaa gaatttattc tgctaggctt tgcagaccgc 60
ccttggctag agcttcctct gttcactagt cttcttataa tgtaccctat agccgtgatg 120
ggaaacatca caatcattct catgtccagg ttagactctc gtcttcatag ccccatgtac 180
tttttcctca ccaacctctc ctttttggac atgtgttata ccacaagcat tgtccctcag 240
atgctgttta acctgggaag ctctaagaag accatcagct atatggggtg tgcggttcag 300
ctttatttct ttcacataat gggggggaaca gaatgtttgc ttttggctat tatgtccttt 360
gatcgctatg tggccatctg cagacctctt cactacaccc tcatcatgaa tcagcgcgtc 420
tgtatcctta gtttccaccg tgtggctaat tggaataatc tatgctgtct cagaggccac 480
tgccacatta caattgccac tgtgtgctct aataaactgg accacttggt gtgtgagatt 540
cctgttctga taaagattgc ctgtggtgaa aagggttcta acgagctcac actctctgtg 600
gtatgcattt ttatgttagc tgtcccacta tgcttaattc ttgcttccta tgctagtatt 660
ggaagtgctg tatttaagat caaatcttcc aagggaagga aaaaggcctt tgggacatgc 720
tcctcccatc ttattgtagt tttcttattt tatggcccag ccatcagcat gtaccttcag 780
ccccccctcct ccatctcaag ggatcaaccc aagttcatgg ccctcttcta tggagtggtg 840
actccctcac tcaacccttt tatctacacc ctgcggaata agaatgtaaa gggggcatta 900
cgcaacttgg tgaggagcat ttcagcttta agtgatagtg ggtagacata aaatgaagtt 960
attgaacagt tagagtaggt tgctatggtt ttatctaaca aattcttgtc tcataatcaa 1020
atatcgcttt acatgttctt gcaaaatatg ttatgtctcc gagactcttt gtaaacatgt 1080
tcagcaa 1087

<210> 886
<211> 498
<212> DNA
<213> Unknown (H38g736 nucleotide)

<220>
<223> Synthetic construct

<400> 886
tttattcatg ccctctcagc cattgaatcc accatcctgc tggccatggc ctttgaccgt 60
tatgtggcca tctgccaccc actgcgccat gctgcagtgc tcaacaatac agtaacagcc 120
cagattggca tcgtggctgt ggtccgcgga tccctctttt ttttcccact gcctctgctg 180
atcaagcggc tggccttctg ccactccaat gtgctctcgc actcctattg tgtccaccag 240
gatgtactga agttggccta tgcagacact ttgcccaatg tggtatatgg tcttactgcc 300
attctgctgg ccatgggcgt ggacgcaatg ttcatctcct tgtcctattt tctgataata 360
cgaacggttc tgcaactgcc ttccaagtca tagcgggcca aggcctttgg aacctgtgta 420
gtacacattg gtgtggtact cggcttgtat gtgccactta ttggcacttc aagtggtcac 480
cggtttggga acaaactt 498

<210> 887
<211> 936
<212> DNA
<213> Unknown (H38g737 nucleotide)

<220>
<223> Synthetic construct

<400> 887
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atgatgatta aaaaaaatgc aagttcggaa gacttcttta ttctacttgg attttctaat      60
tggcctcagc tggaagtagt tctctttgtg gttatcttga tcttctacct gatgacactg     120
acaggaaacc tgttcatcat catcctgtca tacgtggact cccatctcca cacaccaatg     180
tacttcttcc tttcaaacct ctcatttctg gatctctgcc acaccaccag ctctatccct     240
cagttgctgg tgaatctccg gggcccggaa aagaccatct cgtatgctgg ttgcatggtt     300
caactttact ttgttcttgc actgggaatc gcagagtgtg tcctactggt ggtgatgtcg     360
tatgatcgtt atgtagctgt gtgtagacct ttgcattaca ctgtcctcat gcaccctcgt     420
ttctgccact tgttggctgc ggcttcttgg gtaattggtt ttactatctc agcacttcat     480
tcctccttta ctttctgggt accccttttgt ggacatcgcc tagtggatca cttcttctgt     540
gaagttccag cacttctgcg tttatcatgt gttgacaccc atgcaaatga gctgaccctc     600
atggtcatga gctccatttt tgttctcata cctctcattc tgattctcac tgcctatggt     660
gccattgccc gggctgtact gagcatgcaa tcaaccactg ggcttcagaa agtgtttagg     720
acatgtggag cccatcttat ggttgtatct ctctttttca ttccagtcat gtgcatgtat     780
ctccagccac catcagaaaa ttctcctgat cagggcaagt tcattgccct cttttatact     840
gttgtcacac cgagtcttaa tcctctaatc tacactctca gaaacaagca tgtaaaaggg     900
gcagcgaaga gactattggg gtgggagtgg gggaag                               936
```

<210> 888
<211> 453
<212> DNA
<213> Unknown (H38g738 nucleotide)

<220>
<223> Synthetic construct

<400> 888
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cggccgctgt gcgcgccccg cctgctggac cacttcatct gtgagctgcc ggcgttgctc      60
aagctggcct gcggaggcga cggagacact accgagaacc agatgttcgc cgcccgcgtg     120
gtcatcctgc tgcgggggt tgccgtcatc ctggcctcct acggtgccgt ggcccgagct     180
gtctgttgca tgcggttcaa cggaggccgg aggagggcgg tgggcacgtg tgggtcccac     240
ctgacagccg tctgcctgtt ctacggctcg gccatctaca cctacctgca gcccgcgcag     300
cgctacaacc aggcacgggg caagttcgta tcgctcttct acaccgtggt cacacctgct     360
cttaacccgc tcatctacac cctcaggaat aagaaaatga aaggggcacc gaggaggctg     420
ctgcggagtc ttgggagagg ccaggctggg cag                                  453
```

<210> 889
<211> 1014
<212> DNA
<213> Unknown (H38g739 nucleotide)

<220>
<223> Synthetic construct

<400> 889
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aaagtcaatg ctagctctga ggggtacttt attttagttg gattttctaa ttggccttat      60
ctggaagtag ttctctttgt ggttattttg atcttctgct tgatgacact gataggaaac     120
ctgttcatca tcatcctgac gtacctggac tcccatctcc atactccctt gtatttcttc     180
ctttcaaatc tctcatttct ggatctctgc tacaccacca gctctatccc tcagttgctg     240
gtcagtctct ggggtgtgga aaagaccatt tcttatgctg gttgcatggt tcaactttac     300
ttttttctca cactgggaac cacagagtgt gtcctactgg tggtgatgtc ctatgaccgt     360
tatgcagctg tgtgtagacc tttgcattac actgtcctca tgcactctcg tttctgccac     420
ttgttggctg tggcttcttg ggtaagtggt tttacaaacc cagcacttca ttcctccttc     480
```

accttctggg tacctctgtg tggacaccgc caaatagatc actttttctg tgaagttccg 540
gcacttttat gattatcatt tgtcaatacc cgtgaaaata aactgaccct catgatcaca 600
agctccattt ttgttctgct acttctcacc ctcattttca cttcctatgg tgctattgcc 660
caggctgtac tgaggatgca gtcaaccact gggcttcaga aagtatttgg aacatgtgga 720
gctcatcata tggttgtatc tctctttttc attccggcca tgtgcatgta tctccagcca 780
ccatcaggga attctcaaga tcaaggcaag ttcattgctc tcttttatac tgttgttaca 840
cctagtctta accctctaat ctacaccctc agaaacaaag atgtaagagg ggtagtgaag 900
agactaaggg ggtgggagtg agcctgtgtt tgtgtgatat taacaatata atggagtctt 960
tcctcacaat gattcatcca tctgttcatt tatcaaccat tcttttattc actc 1014

<210> 890
<211> 656
<212> DNA
<213> Unknown (H38g740 nucleotide)

<220>
<223> Synthetic construct

<400> 890
ttgcctgaca tcggtttcac ctccaccacg gtccccaaga tgattgtgga catccaatct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagacagaca tactcctgag tgtgatggcc tatgaccagt ttgtagccaa 180
atgtcaccct ctatatcatt cagccatcat gaacccgtgt tctgtggctt tctacttttg 240
ttgtcttttt tttttccctc agtcttttag atgcccagct gtacaatttg attgccttac 300
aaatgacctg cttcaaggat gtggaaattc ctaatttctt ctgtgaccct tctcaactcc 360
cccatcttgc atgttgtgac accttcaaca ataacataat cctgtatttc cctgatgcca 420
tatttggttt tcttcccatc tcggggacac ttttctctta cgataaaatt gtttcctcca 480
ttctgagggt ttcatcgtca ggtgggaggt ataaagccct ctccacctgt gggtctcacg 540
tgtcagttgt ttgctgagtt tatggaacag gcgttggagg gtacctcagt tcggatgtgt 600
cattttcccc cagaaagggt gcagtggcct cagtgatgta cgcggttgtc accccc 656

<210> 891
<211> 971
<212> DNA
<213> Unknown (H38g741 nucleotide)

<220>
<223> Synthetic construct

<400> 891
atgattataa tttgcaatga cagccacagt gatttcatcc ttctgggctt ctctaacaag 60
ccacatttgg agaagatact tttggatca tttttatttt ttatttttg actcttgcag 120
gaaatatggt catagttctt gtgtccttga aggatccaaa actccacatc cctatgtatt 180
tctttctttc caacctttcc ttggtagacc tctgtttgac cagcagctgt gttccacaga 240
tgttgattaa cttctggggc ccagaaaaga ccatcagcta cattggctgt gccattcaac 300
tctatgtttt tttgtggctt ggggccacgg aatatgtcct tcttgttgtc atggctgtgg 360
attgttatgt agcagtgtgt catccactgc aaaataccat gatcatgcac ccaaaacttt 420
gtctgcagct ggctatcttg gcatgggggga ctggcttggc ccagtctctg atccagtccc 480
ctgccaccct ccggttaccc ttctgctccc agcggatggt ggatgatgtt gtttgtgaag 540
tcccagctct gattcagctc tccagtactg atactaccta cagtgaaatt cagatgtcta 600
tcgccagtgt tgtcctcctg gtgatgccct tgatcattat cctttcctct tctggtgcta 660
ttgctaaggc tgtgctgaga attaagtcaa ctgcaggaca gaagaaagca tttggcacct 720
gcatctctca ccttcttgtg gtttctctct tttatggcac tgtcacaggt gtctaccttc 780
aaccaaaaaa tcactatcct catgaatggg gcaaatttct cactcttttc tacactgtag 840
taaccccaac tcttaatccc ctcatctaca ctctaaggaa caaggaggta aagggagcac 900
taataagatt ggggaggagg acctgggatt cccagaataa ctaacaaggt taacatatgt 960
ttacctttgc t 971

<210> 892
<211> 651
<212> DNA

<213> Unknown (H38g742 nucleotide)

<220>
<223> Synthetic construct

<400> 892
ttgcctgaca ttggtttcac cttggccacg gtccccaaga tgatggagac atgcaatcac 60
atagcagagt catctcccat gcaggctgtc tgacacagat acctttcttt gtccttttg 120
tatgtataga tgacatgctc ctgactgtga tggcctataa ctgatttgtg gccatctgtc 180
accccctgca ctacccagtc atcatgaatc ctcacctctg tgtcttctta gttttggtgt 240
cctttttcct tagcctgttg gattcccagc tgcacagctg gattgtgtta cacaactcac 300
cttcttcaag aatgtggaaa tctataattt tttttctgtg acccatctca acttctcaac 360
cttgcctgtt ctgacagcat catcaataac atattatgta ttttagatat ccctatattt 420
ggtttcttc ccatttcagg gatccttttg tcttactata aaattgtctc ctccattcca 480
agaattccat cgtcagatgg gaagtataaa gccttctcca cctgtggctc tcacctggca 540
gttgtttgct tattttatgg aacagggctt gtagggtacc tcagttcagc tgtgttacca 600
tcccccagga agagtatggt ggcttcagtg atgtacactg tggtcacccc c 651

<210> 893
<211> 373
<212> DNA
<213> Unknown (H38g743 nucleotide)

<220>
<223> Synthetic construct

<221> misc_feature
<222> (1)...(373)
<223> n = A,T,C or G

<400> 893
ttcctccttt aggccaactt acagcgcaga ggagcgcttt ctcctgctgg gtttctccga 60
ctggccttcc ctgcagccgg tcctcttcgc ccttgtcctc ctgtgctacc tcctgacctt 120
gacgggcaat tcgggcgctg gtgctgcttg gcngngnngg acccacgcct gcanacncac 180
gatgtatgna ctacttcctc tgccacctgg ccttggtaga cgcgggcttc actactagcg 240
tggtgccgcc gctgctggcc aacctgcgcg gaccagcgct gctntgncgc gcagccactg 300
cacggcccga gctgtgcgca tcgctggctc tgggttcggc cgaatgcgtc ctctggcggt 360
gatggctctg gan 373

<210> 894
<211> 648
<212> DNA
<213> Unknown (H38g744 nucleotide)

<220>
<223> Synthetic construct

<400> 894
atattagaaa tttcgttcac aaccgtcagt atacccaagt ttctgggtaa cattatttca 60
ggagataaaa ccatttcctt taataattgc atagttcagt tatttttctt cattctcttg 120
ggagtcacag agttttacct tctggctgcc atgtcctatg accgctatgt ggccatctgc 180
aagcctctgc attacttgag tatcatgaat cgaagagtct gcacactgct tgtttttact 240
tcttggctgg tttcattctt aatcatattc ccagcactca tgttgctttt aaagcttgat 300
tactgtaggt ctaatattat tgaccatttt acctgtgatt attttccact gctgcaactt 360
gcttgttcag acacaaaatt cttagaggtg atgggatttt cttgtgctgc gtttactcta 420
atgttcactt tggcattaat atttctgtcc tacatataca ttatcagaac aattttgaga 480
attccttcta ctagtcagag gacaaaggcc ttttccacat gttcttccca catggttgtt 540
atctccatct cttatggcag ctgcattttt atgtacatta aaccctcagc aaaagataga 600
gtgtccttga gcaagggagt ggcaatacta aacacctcag tagccccc 648

<210> 895

<211> 659
<212> DNA
<213> Unknown (H38g745 nucleotide)

<220>
<223> Synthetic construct

<400> 895
tttcctgaca tcggtttcac ctccaccaca gtccccaaga tgattgtgga catccagtct 60
cacagcagag tcatctccta tgcaggctgc ctgactcaga tgtctctctt tgccattttt 120
ggaggcatgg aagagagaca tgctcctgag tgtgatggcc tatgaccggt ttgtagccat 180
ctgtcaccct ctatatcgct cagccatctt gaacccgtgt ttctgtggct tcctagattt 240
gttgtctttt ttttttttcc ctcagtcttt tagactccca gctgcacaac ttgattgcct 300
tacaaatgac ctgcttcaag gatgtggaaa ttcctaattt cttctgtgac ccttctcaac 360
tcccccatct tgcatgttgt gacaccttca ccaataacat aatcatgtat ttccctgctg 420
ccatatttgg ttttcttcag atctcgggga cccttttctc ttactataaa attgtttcct 480
ccattctgag ggtttcatca tcaggtggga actataaagc cttctccacc tgtgggtctc 540
acctgtcagt tgtttgctga ttttatggaa caggcgttgg agggtacctc agttcagatg 600
tgtcatcttc cctgagaaag gctgcagtgg cctcagtgat gtacatggtg gtcacaccc 659

<210> 896
<211> 804
<212> DNA
<213> Unknown (H38g746 nucleotide)

<220>
<223> Synthetic construct

<400> 896
atgatggcac tcatcttcac agactcccat ctccaaagcc caatgtattt cttcctcaat 60
gtcctctcgt ttcttgatat ttgttactct tctgtggtca cacctaagct cttggtcaac 120
ttcctggtct ctgacaagtc catctctttt gagggctgtg tggtccagct cgccttcttt 180
gtagtgcatg tgacagctga gagcttcctg ctggcctcca tggcctatga ccgcttccta 240
gccatctgtc aacccctcca ttatggttct atcatgacca gggggacctg tctccagctg 300
gtagctgtgt cctatgcatt tggtggagcc aactccgcta tccagactgg aaatgtcttt 360
gccctgcctt tctgtgggcc caaccagcta acacactact actgtgacat accacccctt 420
ctccacctgg cttgtgccaa cacagccaca gcaagagtgg tcctctatgt cttttctgct 480
ctggtcaccc ttctgcctgc tgcagtcatt ctcacctcct actgcttggt cttggtggcc 540
attgggagga tgcgctcagt agcagggagg gagaaggacc tctccacttg tgcctcccac 600
tttctggcca ttgccatttt ctatggcacc gtggttttca cctatgttca gccccatgga 660
tctactaaca ataccaatgg ccaagtagtg tccgtcttct acaccatcat aattcccatg 720
ctcaatccct tcatctatag cctccgcaac aaggaggtga agggcgctct gcagaggaag 780
cttcaggtca acatctttcc cggc 804

<210> 897
<211> 949
<212> DNA
<213> Unknown (H38g747 nucleotide)

<220>
<223> Synthetic construct

<400> 897
atggacttgg gaaatcaaac aagagtttca gaatttttac tcctgggatt ttcccaagac 60
ctagaggatc aacagttgct ctttgcactg tttctgtcca tgtacctggt caccgttctg 120
gggaacctgc tcatcatcct ggccatcagc tctgactccc acctccacac ccccaggtac 180
ttcttcctct ccaatctgtc cctggctgac atcggtttca cctccaccgc agtccccaag 240
atgctggtga acatccaggt gcagagcaat gccatcagct atgcagactg catcgcccag 300
atgtatgttt ttcatggttt ttggaggcat ggacacattt ctcctcaccg tgatggccta 360
tgaccggtat gtggccatct gtcacccccct gtactactgt gtcaccagga accccctgcct 420
ctgtggcctg ctggttcttg tgtcctggtt cctcagcttg tcatactccc tgatccagag 480

```
tctgttggtg ctgcgggtgt ccttctgcac cagttgagtc attcagcact tttactgtga      540
gcttgctcag gtcctcaggc ttacctgctc agacacacat gtcaattaca tcctgctcta      600
cgtggtggcc ggccttctgg actttgtgcc cttctcaggg atccttttct cctacaccca      660
aattgtctcc tacatcctga gaatctcatc cacagatggg aaacacaaag ccttttctac      720
ctgtggatct catctgtttg tggtttcttt attctatggg acaggccttg gtgtgtatct      780
tagttccaat gcatcgtcct cttcctggtg gggcatggtg gcctcggtca tgtacactgt      840
ggtcaccccc atgctgaacc ccttcatcta ttgcttgcgg aacagggaca tcaagaggac      900
cctagaaaca ctgcttggga gaatgctgta tgctcaatga cggggacat                 949
```

<210> 898
<211> 927
<212> DNA
<213> Unknown (H38g748 nucleotide)

<220>
<223> Synthetic construct

<400> 898

```
atggagaatt gtacggaagt gacaaagttc attcttctag gactaaccag tgtcccagaa       60
ctacagatcc ccctctttat cttgttcacc ttcatctacc tcctcactct gtgtgggaac      120
ctggggatga tgttgctgat cctgatggac tcttgtctcc acacccccat gtactttttc      180
ctcagtaacc tgtctctggt ggactttgga tactcctcag ctgtcactcc caaggtcatg      240
gctgggttcc ttagaggaga caaggtcatc tcctacaatg catgtgctgt tcagatgttc      300
ttctttgtag ccttggccac ggtggaaaat tacttgttgg cctcaatggc ctatgaccgc      360
tatgcagcag tgtgcaaacc cctacactac accaccacca tgacggccag tgtaggtgcc      420
tgtctggccc taggctcata tgtctgtggc ttcctaaatg cctcattcca cattgggggc      480
atattcagtc tctctttctg taaatccaat ctggtacatc actttttctg tgatgttcca      540
gcagtcatgg ctctgtcttg ctctgataaa cacactagtg aggtgattct ggtttttacg      600
tcaagcttta atatcttttt tgttcttcta gttatcttta tctcctactt gttcatattc      660
atcaccatct tgaagatgca ttcagctaag ggacaccaaa aagcattgtc cacctgtgcc      720
tctcacttca ctgcagtctc cgtcttctat gggacagtaa tcttcatcta cttgcagccc      780
agctccagcc actccatgga cacagacaaa atggcatctg tgttctatgc tatgatcatc      840
cccatgctga accctgtggt ctacagcctg aggaacagag aagtccagaa tgcattcaag      900
aaagtgttga gaaggcaaaa atttcta                                          927
```

<210> 899
<211> 938
<212> DNA
<213> Unknown (H38g749 nucleotide)

<220>
<223> Synthetic construct

<400> 899

```
atgcacacca tggtggagaa ccacacccaa gtcacctggt tccgcctgct gggacttaca       60
gagcaggagg agctcagagg catcctcttt gtgctcttcc tgctcatgca ttcagtcact      120
gttatgggca acctgggaat gatcactctg atccatgcag acccacagct ccacaccccc      180
atgtatttct tcctgagcgt cctatccttc atagactcct cgttttccac agtggacacc      240
cccaggctgc tggagagctt cctcatctca agccaatcca tctcctttgc aggctgtatg      300
gtccagatgg ccctcatgat cctccatggt actgctgagt gtctgctcct ggccatcatg      360
gcctatgacc gattcaccgc catctgccac cctctcctct atcacactat tatatcccaa      420
tgtctgtgtg ccctgctggt ggtgacctgc tatactgttt ctgttgccaa ttcagctttg      480
ctgactgggt gcatctttaa gctgccctac tgtggcccca atgtcattaa ccactatttc      540
tgtgacatcc cccctgtgct ccaacttgcc ggtgcagata ctacgaggtt gagaccatta      600
tcttctcatt gtgtgccttg ctcatcctct ttaccatcac cattatccca gtctcctatg      660
cctacatcct cgtgaccatt tgcaggatgc gctccctgca agcccagagc aaagctctct      720
ccacctgtgc ctcccacctc accatcatct gcctcttcta tagcaccatc accttcatgt      780
atgctcagcc aagctctcac aattccatgg aacacaacaa ggtcatgtct gtcttctaca      840
ctgtggtcat ccgcaggctg aaccctctga tctacagcct gaggaataaa gatgtaaaat      900
atgctttgaa gaggagatgc ctgtgcaagc tgtcttca                             938
```

<210> 900
<211> 942
<212> DNA
<213> Unknown (H38g750 nucleotide)

<220>
<223> Synthetic construct

<400> 900
atggaaaata agacagaagt aacacaattc attcttctag gactaaccaa tgactcagaa 60
ctgcaggttc ccctctttat aacgttcccc ttcatctata ttatcactct ggttggaaac 120
ctgggaatta ttgtattgat attctgggat tcctgtctcc acaatcccat gtactttttt 180
ctcagtaact tgtctctagt ggacttttgc tactcttcag ctgtcactcc catcgtcatg 240
gctggattcc ttatagaaga caaggtcatc tcttacaatg catgtgctgc tcaaatgtat 300
atctttgtag cttttgccac tgtggaaaat tacctcttgg cctcaatggc ctatgaccgc 360
tatgcagcag tgtgcaaacc cctacattac accacaacca tgacaacaac tgtgtgtgct 420
cgtctggcca taggctccta cctctgtggt ttcctgaatg cctccatcca cactggggac 480
acatttagtc tctctttctg taagtccaat gaagtccatc actttttctg tgatattcca 540
gcagtcatgg ttctctcttg ctctgataga catattagcg agcttgttct tatttatgtt 600
gtgagcttca atatctttat agctctcctg gttatcttga tatcctacac attcattttt 660
atcaccatcc taaagatgca ctcagcttca gtataccaga agcctttgtc cacctgtgcc 720
tctcatttca ttgcagtcgg catcttctat gggactatta tcttcatgta cttacaaccc 780
agctccagtc actccatgga cacagacaaa atggcacctg tgttctatac aatggtcatc 840
cccatgctga accctctggt ctatagtctg aggaacaagg aagtgaagag tgcattcaag 900
aaagttgttg agaaggcaaa attgtctgta ggatggtcag tt 942

<210> 901
<211> 936
<212> DNA
<213> Unknown (H38g751 nucleotide)

<220>
<223> Synthetic construct

<400> 901
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aatggcatcc taatttgtgt catcctctcc caggcaatcc tgcatgagcc catgtacata 180
ttcttatcta tgctggccag tgctgatgtc ttgctctcta ccaccaccat gcctaaggcc 240
ctggccaatt tgtggctagg ttatagccac atttcctttg atggctgcct cactcaaaag 300
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tatgtggcca tctgctcccc cctgcgatat gtcacaatcc tcacaagcaa ggtcattggg 420
aagatcgtca ctgccacccct gagccgcagc ttcatcatta tgtttccatc catctttctc 480
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ggcattgccc atctgtcctg ttctgatatc tccatcaatg tctggtatgg gttggcagct 600
gctcttctct ccacaggcct ggacatcatg cttattactg tttcctacat ccacatcctc 660
caagcagtct tccgcctcct ttctcaagat gcccgctcca aggccctgag tacctgtgga 720
tcccatatct gtgtcatcct actcttctat gtccctgccc tttttctgt ctttgcctac 780
aggtttggtg ggagaagcat cccatgctat gtccatattc tcctggccag cctctacgtt 840
gtcattcctc ctatgctcaa tcccgttatt tatggagtga ggactaagcc aatactggaa 900
ggggctaagc agatgttttc aaatcttgcc aaagga 936

<210> 902
<211> 994
<212> DNA
<213> Unknown (H38g752 nucleotide)

<220>
<223> Synthetic construct

<400> 902

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ctacaagtcc ccctccttat catgttcact ctcatatacc ttgtcaatgt ggttggaaac 180
ctggggatga ttgttttaat tgtttgggac attcatctcc acactcccat gtatttttc 240
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tatgatgcag tgtgcaaacc cctacattac accaccacca tgacaacaag tgtgtgtgca 480
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acattgtctc tctttctgta tgtccaatga agtccattgc tttttctgtg atgttccacc 600
agtcatggct ctgtcttgct gtgatagaca tgtgaatgag ctagttctca tttatgtagc 660
cagtttcaat atcttttctg ccatcctagt tatcttgatc tcctacctat tcatatttat 720
caccatccta aagatgcact cagcttcagg ataccagaag gctttgtcca cctgtgcctc 780
ccacctcact gcagtcatca tcttctatgg gactattatc ttcatgtact tacagcccag 840
ctctggtcac tccatggaca cagacaaact ggcatctgtg ttctatacta tgatcatccc 900
catgctgaac cccctggtct atagcctgag gaacaacgaa gtgaagagcg cattcaagaa 960
agttattgag aaggcaaaat tgtctctatt attg 994

<210> 903
<211> 954
<212> DNA
<213> Unknown (H38g753 nucleotide)

<220>
<223> Synthetic construct

<400> 903
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ccagggctgg aggctgccca cttctggatt gccatccctt tctgtgccat gtatcttgta 120
gcactggttg gaaatgctgc cctcatcctg gtcattgcca tggacaatgc tcttcatgca 180
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gtgcccaaga tgctggccat tttgtggctc catgctggtg agatttcctt tggtggatgc 300
ctggcccaga tgttttgtgt ccattctatc tatgctctgg agtcctcgat tctacttgcc 360
atggcctttg ataggtatgt ggctatctgt aacccattaa ggtacacaac cattctcaac 420
catgctgtca taggcagaat tggctttgtt gggctattcc gtagtgtggc tattgtctcc 480
cccttcatct tcttgctgag gcgactcccc tactgtggtc accgtgtcat gacacacaca 540
tactgtgagc atatgggcat cgcccgactg gcctgtgcca acatcactgt caatattgtc 600
tatgggctaa ctgtggctct gctggccatg ggactggatt ccattctcat tgccatttcc 660
tatggcttta tcctccatgc agtctttcac cttccatctc atgatgccca gcacaaagct 720
ctgagtacct gtggctccca cattggcatc atcctggttt tctacatccc tgccttcttc 780
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gctaatctct atgtgctggt gcctcctgta ctcaatccta ttctctatgg agctagaacc 900
aaggagattc ggagtcgact tctaaaactg cttcacctgg ggaagacttc aata 954

<210> 904
<211> 989
<212> DNA
<213> Unknown (H38g754 nucleotide)

<220>
<223> Synthetic construct

<400> 904
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cttgggaatc tgctcatcat cctggccaca atctcagact cccacctcca caccccatgt 180
acttcttcct ctccaacctg tcctttgcgg acatctgttt catctctact acaatcccaa 240
agatgctcgt aaacatccag acacagagca gagtcatcac ttatgcaggc tgcatcaccc 300
agatgtgctt ttttgtactc ttagaagcac tggacagctt actcctgacc gtgatggcct 360
atgaccagtt tgtggccatc tgtcaccccc tgcactacat ggtcatcatg agcccctggt 420
tctgtggact gctggttctg gcatcctgga tcatcatgag cccctggctc tgtggactgc 480